FINAL EVALUATION REPORT OF COST ACTION B16

REVERSAL OF ANTIBIOTIC RESISTANCE (BY INHIBITION OF TRANS-MEMBRANE TRANSPORT).

1. ACTION IDENTIFICATION DATA :

Cost Action *(number)* B16

Title "REVERSAL OF ANTIBIOTIC RESISTACE"
(BY INHIBITION OF TRANS-MEMBRANE TRANSPORT):

TC Recommendation: *10/05/2000*
CSO Approval: *9/12/1999*
Start date: *(day/month/year)* *(1) 24/05/2000*
Duration: *months 5 years*
,,,,,,,,,,,,,,,Extension: *monts*
End Date: *(day/month/year) 9/05/2005*

First MC Meeting: *24/05/2000*
Last MC Meeting: *29/12/2003*
Final Report: *(day/month/year)* *(2)*
Evaluation Report:*(day/month/year)*(2)
Tc Evaluation: *(day/month/year)*

Number of signatories: *(number) 24*

Signatories and date of signature: *(day/month/year)*

Austria 17.May.2000	Greece 18 October, 2003	Poland 10 May 2000
Belgium 13.Sept.2000	Hungary 23.May 2000	Portugal 10 May 2000
Romania 28 June, 2002	Ireland 2005	Slovakia 12 May 2000
Italy 14 June, 2001	Czech Rep. 25. Nov 2000	Spain 10 May 2000
Denmark 10 May 2000	Lithuania	Sweden 11 Oct 2000
Switzerland 16 May 2000	Finland 12 July 2000	Turkey 28 June 2002
France 19 July 2000	Netherlands 29 Nov 2003	United Kingdom 10 May 2000
Germany 5 July 2000	Norway 15 Sept 2000	Israel 19 Dec 2000

Institutes of non-COST countries: *(list)*

Area: Medicine and Health

Action Web site: http.//www.ihmt.unl.pt/costb16

Chairperson: Joseph Molnar MD, DSc

Title name: Professor, MD, DSc
Affiliation: University of Szeged, Department of Medical Microbiology
Tel: 00-36-62-545-114 Fax: 00-36-62-545-113
Postal Addres: Dom ter 10, Szeged H-6720
E-mail: molnar.jozsef@med.u-szeged.hu

PERIOD: FROM 24 MAY 2000 – 10 MARCH 2006

CHAIRMAN OF THE MANAGENET COMMITTTE: PROF JOSEPH MOLNÁR

SCIENTIFIC SECRETARIATE:
AT COST-ESF DIRECTORATE: PROF. MIHAIL PASCU.

RAPPORTEUR:
PROF JANOS FEHER 2ND DEPT. OF MEDICINE, SEMMELWEIS UNIVERSITY, BUDAPEST, HUNGARY

2. OBJECTIVES

The main objective of the Action is to investigate mechanisms of multidrug resistance in bacteria, fungi, cancer cells, viruses and parasites with a view toward developing new drugs capable of reversing this drug resistance.

The main reason for the concerted action is that many chemotherapeutic medicines and antibiotics have lost their effectiveness in the majority of European Countries during the last two decades due to the emerging multidrug resistance of micro-organisms, parasites, and cancer cells. Multi-drug resistant disease means that afflicted patients are ill for a longer period of time and are at greater risk of dying. Moreover, because therapy of these mdr diseases is problematic and often causes a reduced quality of life as a consequence of severe morbidity, much suffering is experienced by both the patient and his/her family.

The Action will be carried out in accordance with the provisions of the document COST 400/94 "Rules and Procedures for Implementing COST Actions", the content of which are fully known to the signatories.

This comprises:

- The synthesis of novel derivatives capable to reverse resistance in vitro and in vivo.
- The investigation of molecular mechanism of resistance in cancer cells, parasites, bacteria, fungi and viruses.
- The evaluation of compounds prepared

3. TECHNICAL DESCRIPTION AND IMPLEMENTATION

Four Working Groups were established by the MC as follows with the aim to achieve the technical scientific programme in the following areas:

- **WG1** on the field of Chemistry of the resistance reversal compounds, chaired by Pr. J. Barbe (Fr) untill 2004 and Pr. G. Hajos (Hun) from that time.

Compounds previously tested as chemosensitizers and listed in the literature belong to various chemical series. However, none of them can be used as a drug because of toxicity and/or a wide range of biological activities. Thus they have only to be considered as references in the field.

With the aim to obtain novel derivatives to be marketed and developed as drugs, attention was chiefly focused on synthesizing heterocyclic compounds.

This implied adjustment and perfecting of ways of synthesis, structural determination including X-ray crystallography, molecular physico-chemical parameter measurements (acid-base properties, logD, solubility, DNA/RNA interactions, etc.), and SAR description before selected compounds be investigated by other WGs.

WG1 is dealing with the chemical research chaired by Pr. Barbe and Pr. Hajós. This WG had as its main goal to elaborate new organic transformations, to prepare new, mostly heterocyclic (acridin, phenothiazine, pyridine, pyridazine, triazine, or benzthiazole) derivatives, and to provide samples for biological tests. The investigation – besides the synthesis – also impied research on physico-chemical properties of the new compounds, structure elucidation of the synthesized derivatives by spectroscopical methods and X-ray diffraction, theoretical calculation (quantum chemistry, quantitative structure-activity-relationship, etc.). The gradually growing number of participants in B16 had a significant impact to WG1: an extended network has been established with numerous research groups of the other three WGs.

- **WG2** consists of bacteriologists and myocologists whose collective aim is to elucidate the mechanisms by which mdr of bacteria and fungi develops, assess possibilities for the control and modulation of said mechanisms and evaluate compounds which can interfere or inhibit their activity.

WG2 deals with the reversal of multidrug resistance of bacteria and fungi, chaired by Pr. P. Henderson and Pr. K. Kuchler. The research activities of the **WG2** group were quite extensive and consisted of: purification and imaging of transporter proteins of bacteria; the characterisation of efflux pumps of bacteria and fungi at the level of specific genes; the physiological regulation of these pumps; evaluation of agents provided by WG1 members to members of WG2 for activity against well characterised efflux pumps of bacteria and fungi and for the ability of many of these agents to reverse multi-drug resistance; development of new methods for the assessment of efflux pump activity; and the formation of WG2 collaborative associations for the presentation of symposia at international meetings; the editing of special issues of international scientific Journals; and the joint publications of many scientific studies.

- **WG3** consists of virologists and cancer cell biologists whose collective aim is to elucidate mechanisms that control the activity of transporter pumps which render parasites and cancer cells multi-drug-resistant as well as to evaluate a variety of new compounds provided by **WG1** for potential inhibitory activity against these transporter pumps.

WG3 chaired by Prof Dr. Derek Sharples and co- chaired by Prof Dr Joseph Molnar deals with a variety of models that elucidate the mechanism by which cancer cells achieve mdr status and evaluates compounds that have the potential to render these mdr cells sensitive to antibiotics to which they were initially resistant. The sources from which agents for evaluation could be obtained was not to be limited those provided by WG1 alone but extended to plants, vegetables and existing medicinal compounds that had been employed for diseases other than cancer. The rationale for this extension was based on the knowledge that many plants and vegetables had reputations for reducing the cancer load and therefore, the responsible compounds would need to be isolated and evaluated for possible activity against mechanisms that render cancer cells immune to antibiotics.

- **WG4** consists of parasitoligists whose main interest is to reduce the frequency of mdr parasitic infections in man and animals by first determining the mechanism by which parasites become mdr and secondly, evaluate compounds provided by **WG1** and Pharmaceutical companies allied with the group for abilities to reverse mdr of important clinically and veterinary important parasites.

WG4 was formed in 2003 and has been chaired by Georg von Samson Himmlstjerna. The main activity to be conducted by this group was to standardise assays that evaluated eggs, parasites and adults of important parasites in order that studies which were to evaluate compounds for activity against mechanisms that rendered the organisms mdr could be conducted on a European wide basis. The **WG4** established close cooperation with a number of pharmaceutical companies that provided access to specialised expertise in the fields of molecular biology and molecular genetics.

4. PARTICIPATION AND COORDINATION

4.1 **Management Committee**

Chairperson: Prof. Joseph Molnar
Department of Medical Microbiology
Albert Szent-Györgyi Medical Centre,
University of Szeged
Szeged, Dom ter 10, Hungary
Tel.: 36-62-545-114
Fax: 36-62-545-113,
E-mail: molnarj@comser.szote.u-szeged.hu

Vice Chairperson: Prof. Jacques Barbe
GERCTOP-UMR CNRS 6178
Faculté de Pharmacie
Université de la Méditerrannée
27, boulevard Jean Moulin
F-13385 Marseille CEDEX 5 France
Tel.: 33-491-79-38-32
Fax.: 33-491-83-56-30
E-mail: gerctop@pharmacie.univ-mrs.fr

Secretary: Anne Mandenoff till September 2001 then Prof. Mihail Pascu from that time

Secretariat (May-2000-Sept 2001): Dr. Anne Mandenoff
EC - DG Research - AP2
COST Secretariat
rue de la Loi 200
SDME 1/42, B-1050 Brussels, Belgium.
Tel.: +32-2-299-1556
Fax: +32-2-296-4289

Secretariat (Sept 2001-present): Professor Mihail Pascu
DG Research / B5 - COST Secretariat
Rue de la Loi 200
Office: B 7 - 3/27
B-1049 Brussels, Belgium
Tel: +32-2-299 15 56
Fax: +32-2-296 42 89
E-mail: mihail.pascu@cec.eu.int

MC Members

Austria

Prof. Dr. Michael MICKSCHE
Institut für Tumorbiologie / Krebsfroschung, Universität Wien
A-1090 Wien

Prof. Dr. Karl KUCHLER
Vienna Bio Center - Institut for Medical Biochemistry
Department Molecular Genetics
A-1030 Vienna

Belgium

Dr. Patrick BUTAYE
Veterinary and Agrochemical Research Center
Department of Bacteriology and Immunology
B-1180 Brussels

Czech Rep.

Prof. Irena NEMCOVA
Charles University, Department of Analytical Chemistry
CZ-12840 Prague

Denmark

Dr. Jette E. KRISTIANSEN
Department of Clinical Microbiology
Sønderborg, Sygehus
DK-6400 Sønderborg

Dr. Alice FRIIS-MØLLER
Dept. of Clinical Microbiology, Hvidovre Hospital
DK-2650 Hvidovre

Finland

Dr . Esa-Matti LILIUS
University of Turku, Department of Biochemistry and Food Chemistry
FIN-20014 Turku

Dr. Henry HAGESTRAND
Abo Akademi University, Dept. of Biology
FIN-20520 Turku

France

Prof.-Dr. Jacques BARBE
GERCTOP – UMR CNRS 6178
Faculté de Pharmacie - Université de la Méditerranée
F-13385 Marseille CEDEX 5

Dr. Gérard MOLLE
UMR 6522 CNRS, Université de Rouen
F-76821 Mont-Saint-Aignan

Dr. Jean-Marie PAGES (substitute Dr. G. MOLLE)
CSF9606-EA2197 Enveloppe Bactérienne, Antibiotiques et Colonisation
Faculté de Médecine Timone
F-13385 Marseille CEDEX 5

Germany *(3 delegates)*

Dr. Andreas VARGA
Humboldt-Universität Berlin
Lehrstuhl für Molekulare Parasitologie, Biologisches Institut
D-10115 Berlin

Dr. Hermann LAGE
University Hospital Charité
Insitute of Pathology
Schumannstrasse 20/21
D-10117 Berlin
Tel : +49 30 450 536 045
Fax : +49 30 450 536 900
E-mail : hermann.lage@charite.de

GREECE

Dr. Georg von SAMSON-HIMMLSTJERNA
School of Veterinary Medicine,
Institute of Parasitology
D-30559 Hannover
Gvsamson@tiho-hannover.de

Greece

Dr. John G. DELINASSIOS
International Institute of Anticancer Research
1st km Kapandritiou-Kalamou Rd., P.O.Box 22.
Kapandriti, ATTIKI 19014
Department of Microbiology

Dr.Nikos LEGAKIS
University of Athens
75, M. Asias str.
GR 115 27 Goudi
Athens

Hungary

Dr. Jozsef MOLNAR
University of Szeged, Faculty of Medicine
Dept. of Medical Microbiology
H-6720 Szeged

Dr. Gyorgy HAJOS
Chemical Research Centre, Institute of Chemistry
Hungarian Academy of Sciences
H-1025 Budapest

Ireland

Professor Séamus FANNING
Centre for Food Safety,
UCD Veterinary Sciences Centre,
University College Dublin,
Belfield,
Dublin 4,
Ireland.

Tel.: (+353-1) 716 6082
Fax: (+353-1) 716 6091
sfanning@ucd.ie

Israel

Prof. Yechiel BECKER
Department of Molecular Virology
Institute of Microbiology, Faculty of Medicine
The Hebrew University of Jerusalem
IL-91120 Jerusalem,

Italy

Professor Ilario VIANO
Dipartimento di Scienze Mediche
Universita del Piemonte Orientale "A. Avogadro"
I-29100 Novara

Dr. Donato COLANGELO
Dipartimento di Scienze Mediche
Universita del Piemonte Orientale "A. Avogadro"

I-29100 Novara

Latvia

Dr. Sandra Edite BERZINA
P. Stradins Clinical University Hospital
Pilsonou icla 13
LV-1002 Riga

Norway

Prof. Anne-Brit KOLSTO
University of Oslo, School of Pharmacy
Department of Microbiology
N-0316 Oslo

Prof. Tone TONJUM
National Hospital, Institute of Microbiology
Section of Molecular Microbiology
N-0027 Oslo

Poland

Dr. Krystyna MICHALAK
Wroclaw Medical University, Dep. of Biophysics
PL-50-368 Wroclaw

Prof. Janina KAROLAK-WOJCIECHOWSKA
Technical University of Lódz
Inst. of General and Ecological Chemistry
PL-90-924 Lodz

Portugal

Prof. Leonard AMARAL
Instituto de Higiene e Medicina Tropical
Departemento de Micobacteorologia
PT-1349-008 Lisboa

Prof. Maria José UMBELINO FERREIRA
Faculdade de Farmácia de Lisboa
Avenida das Forças Armadas
1600-083 Lisboa
Portugal
Tele: 351-217946475
Fax: 351-217946470
E-mail: mjuferreira@ff.ul.pt

Romania

Dr. Irena CODITA
Institute Cantacuzino
E-mail: icodita@cantacuzino.ro

Dr. Angela STAICU
INFLPR
Bucarest
E-mail: astaicu@ifin.ipne.ro

Slovakia *(3 delegates)*

Dr. Ladislav HUDEC
Faculty of Electrical Engineering and Information Technology
Slovak University of Technology
SK-812 19 Bratislava

Prof.-Dr. Julius SUBIK
Department of Microbiology and Virology
Facutly of Natural Sciences, Comenius University
SK-842 15 Bratislava

Dr. Marian VARADY
Parasitological Institute
Slovak Academy of Sciences
Hlinkova 3
SK-040 01 Kosice

Spain

Prof. Miguel REGUE
University of Barcelona, Department of Microbiology
School of Pharmacy
E-08028 Barcelona

Dr. Juan TOMAS MAGANA
University of Barcelona, Department of Microbiology
Faculty of Biology
E-08071 Barcelona

Sweden

Prof. Curt PETERSON
I.M.V. Avd. för Klinisk Farmacologi
Hälsouniversitetet
S-581 85 Linköping

Switzerland

Prof. Pascal MAESER
Institute of Cell Biology
University of Bern
Balzer str 4
CH-3012 Bern

Turkey

Dr. Ismail YALCIN
Ankara University
Faculty of Pharmacy
TR-06100 Tandogan
Ankara-Turkey

Dr. Esin SENER
Ankara University
Faculty of Pharmacy
TR-06100 Tandogan
Ankara-Turkey

United Kingdom

Dr. Derek SHARPLES
The University of Manchester
School of Pharmacy and Pharmaceutical Sciences
Manchester, UK-M13 9PL

Prof. Peter J. F. HENDERSON
School of Biochemistry and Molecular Biology
University of Leeds
UK-LS2 9JT Leeds

EUROPEAN COMMISSION

Prof. Mihail PASCU
European Commission
DG Research / B5-COST Secretariat
Office: SDME 9/76
B-1049 Brussels

4.2 **Participating Institutions**

AUSTRIA
Instit. Tumorbiologie - Krebsfroschung, Univ.Wien
Bio Center – Inst. Medical Biochemistry - Dpt Molecular Genetics, Vienna

BELGIUM
Vet. & Agrochem. Res. Center - Dpt Bact. & Immunol., Brussels

CZECH REPUBLIC
Dpt Anal. Chemistry, Charles University, Prague

DENMARK.
Dpt Clinical Microbiology, Sønderborg,
Dpt Clinical Microbiology, Hvidovre Hospital

FINLAND
Dpt Biochemistry & Food Chemistry, Univ. Turku
Dpt Biology Abo Akademi University, Turku

FRANCE
GERCTOP - Fac. Pharm. – Univ. Méditerrannée, Marseille
CSF9606-EA2197 - Fac. Med. - Marseille
Unit Parasitol. - Inst. Méd. Trop. Service Santé Armées, Marseille

GERMANY
Lehrst. Molek. Parasitol., Biologisches Institut - Humboldt-Universität Berlin
Inst. Pathology University Hospital Charité, Berlin
Inst. Parasitology - School Vet. Medicine, Hannover

GREECE
Intern. Institute Anticancer Research, Kapandriti,
Dpt Microbiology - University of Athens

HUNGARY
Dpt Medical Microbiology - Fac. Medicine - and Fac. Pharmacy Univ. Szeged,
Dpt. Medical Chemistry, University of Pécs, Pécs,
Chem. Res. Centre, Inst. Chemistry - Hungarian Acad. Sciences, Budapest,
National Institute of Oncology, Budapest, Hungary.

ISRAEL
Dpt Molec. Virol.- Inst. Microbiol., Fac. Med. - The Hebrew Univ. Jerusalem

NORWAY
Dpt Microbiology - School of Pharmacy, University of Oslo
Inst. Microbiology, National Hospital, Oslo

ITALY
Dpto Scienze Mediche – Univ. Piemonte Orientale "A. Avogadro", Novara Italy

LATVIA
P. Stradins Clinical University Hospital, Riga

POLAND
Dpt. Biophysics, Wroclaw Medical University
Inst. General and Ecological Chemistry - Technical University of Lódz

PORTUGAL
Dpto Micobacteorologia – Instit. Higiene e Medicina Tropical, Lisboa

Faculdade de Farmácia de Lisboa, Univ of Lisbon, Lisbon

ROMANIA
Instit. Cantacuzino, Bucarest
INFLPR, Bucarest

SLOVAKIA
Fac. Elec. Engineer. & Information Technol. - Slovak Univ. Technol., Bratislava
Dpt Microbiol. & Virol. - Fac. Natural Sci., Comenius University, Bratislava
Parasitol. Institute - Slovak Academy Sci., Kosice

SPAIN
Dpt Microbiology - School Pharm., Univ. Barcelona
Dpt Microbiology - Fac. Biology, Univ. Barcelona

SWEDEN
I.M.V. Avd. Klin. Farmacol. – Hälsouniversitetet, Linköping
Inst. Cell Biology – Univ. Bern

TURKEY
Fac. Pharmacy - Ankara University

UNITED KINGDOM
School Pharm. & Pharmaceutical Sciences - The University of Manchester
School Biochemistry & Molecular Biology – Univ. Leeds

Pierre Dorny (B)
Jozef Vercruysse (B)
Christian Bauer (D)
Christian Epe (D)
Achim Harder (D)
Peter-Henning Clausen (D)
Nicole Wirtherle (D)
Bermejo Marival (E
Dominique Kerboeuf (F)
Frank Jackson (F)
Elias Papadopoulos (G)
Fred H.M. Borgsteede (NL)
Grzegorsz Bartosz (PL)
Janez Posedi (Slov)
Johan Höglund (S)
Marian Varady (SK)
Maeser Pascal (CH)
Hubertus Herzberg (CH)
Ronald Kaminsky (CH)
Veli Cirak (T)
Jon Cole (UK)
Gerald Coles (UK)

4.3 Meetings of the Management Committee

1st MC, 24th May, 2000, Brussels

2nd MC, 30th November 2000, Lisbon

3rd MC, 30th June 2001, Prague

4th MC,30th November 2001, Marseille

5th MC, 30th June 2002 Warsawa

6th MC, 29th November 2002, Berlin

7th MC, 29th October 2003, Rhodes

8th MC, 29th November 2003, Sonderborg

9th MC, 29th May 2004, Gent

10th MC, 29th October 2004, Corfu

11th MC, 12th May 2005, Antalya

12th MC, 12th October 2005, Novara

13th NC, 22nd April 2006 Closing Conference , Budapest

5. Results

Preliminary comments from the Chairman

The activities of Cost B16 during 2005 have realised the basic tenet of the Cost Action Programme of the European Commission and the European Science Foundation-namely, the establishing of cooperation and collaboration between European scientists for a common scientific goal. The plan and its goals defined at the inception of the Cost B16 in May 2000 were indeed ambitious, and consisted of a series of steps that would lead to the creation of compounds that would reverse the antibiotic resistance of bacteria, fungi, parasites and cancer cells. To a large extent, the defined goals have indeed been reached witness the listing of publications (138 and still counting) that present the compounds synthesised by the Chemical Partners of of Working Group 1, the distribution of compounds to Working Groups 2, 3 and 4, and the evaluation of these compounds by these Working Groups. Nevertheless, although the activity of many of the compounds at the level of the laboratory bench has been proven, it remains for animal studies and subsequent clinical trials for final demonstration of success.

The year 2005 was scheduled to be the last of the 5 year Cost B16 programme. However, due to the increase of membership from the new addition of 10 European countries to the European Union, the recent cooperation and collaboration between the latter and established members of Cost B16 required more time for these associations to reach full fruition. Hence, Cost B16 successfully applied for an extension of one year, and as is evident from the publication listing at the end o this Report, the extension did accomplish its intended mission. The individual reports from the Chairpersons of Cost B16 describe the many interactive cooperative and collaborative associations between members of the Working Group as well as those between members of different Working Groups.

The scientific activities of the members of Cost B16 during the first four years contributed to the visibility of Cost B16 within the scientific community. During 2005, the Working Groups of Cost B16 were invited to organise scientific programmes at International Scientific meetings and these are described by the various reports from the Working Groups contained in this Annual Report 2005.

The visibility of Cost B16 also includes the programmes that provide training at the level of the bench to many of the Graduate Students of the members of Cost B16. These students grouped into the programme "Short Term Missions" are identified by the STM report and their activities at the laboratories they had visited are described.

Although we can with confidence say that Cost B16 has been truly successful in its mission, there are still areas where certain activities could have made the programme even more successful. The area that is glaringly under-represented by the membership of Cost B16 was medicine. Unfortunately, Cost B16 consisted of only 5 medically trained members and although these interacted with each other prior to and during Cost B16, there was a real need for more medical representation. Consequently, aspects of medicine that are critical for the extension of basic science studies conducted by Cost B16 could not be exploited to a maximum. Nevertheless, the opportunities provided by medical organisations that recognised the contributions made by Cost B16 afforded Cost B16 members access to wide medically oriented audiences via the special issues of Medical Chemotherapy Journals that were devoted to reviews and original reports as well as the many programmes presented at medical meetings

6. DISSEMINATION of RESULTS

The results of the activities of the COST Action B16 have been disseminated by:

a) Publication in International Journals of high impact.
b) Presentations at International and European scientific and medical meetings.
c) Organisation of Symposia by MC members.
d) Presentation of workshops devoted to technology resulting from the activities of members of the action.
e) Extension of COST B16 website to other organs (cancer organisations).
f) Involvement of Pharmaceutical companies in the activities of MC members.

6.1 Publications and Reports

725 articles and reviews have been published or are in press (a detailed list is given in the Annex 2) .
The following Special Issues of International Journal were organised and edited by Cost B16:

International Journal of Antimicrobial Agents 2003;17:1-357
In Vivo 2005;19.
Current Drug Targets 2006;7:789-909.
Journal of Chemotherapy 2006 (in Press).
In Vivo 2006: Issue is being organised.

6.2 Conferences and Workshops

Non-Antibiotics and reversal of antibiotic resistance of Bacteria.
Danish Society of Chemotherapy 2001
South Danish University, School Med.
Odense, Denmark
Organiser: J. Kolmos

4th European Congress of Chemotherapy 2002
Paris, France
Inhibition of Efflux Pumps and Reversal of Resistance
Organiser: FESCI; Chairperson L. Amaral

"Efflux pumps and antibiotic resistance of micro-organisms"
5th European Congress of Chemotherapy, 17-20 October 2003.
Rhodes, Greece
Organizer: Leonard Amaral and Nicos Legakis

"Non-Antibiotics and reversal of resistance of bacteria."
Statens Serum Institute, 2 December 2003.
Copenhagen, Denmark
Organizer:Jette E Kristiansen

Cost B16 Symposia:
International Conference of Cancer Research
25-30 October 2004
Corfu, Greece
Organisers: Joseph Molnár, Mihail Pascu and John G.Delinassios

"Reversal of Antibiotic Resistance"
6th European Congress Chemotherapy/RICAI
1-3 December 2004
Paris, France

Non-Antibiotics and efflux pumps of bacteria.
7th European Congress of Chemotherapy
20 October 2005
Florence, Italy

International Seminar on Multidrug rresistance in Cancer.
5th December 2005,
Szeged, Hungary
Organizer: Joseph Molnár

6.3 **Website** : www.ihmt.unl.pt/costb16 (Enclosure, ref. Prof Leonard Amaral)

.

This website provides full description of the goals and objectives of COST B16, identifies each MC Member fully (CV, Address, phone, fax, e-mail) as well as interests. The website also provides full reports from each MC meeting, as well as a current listing of publications from the research activities of its MC members.

6.4 SCIENTIFIC AND TECHNICAL COOPERATION

Additional cooperations were initiated, based on the fruitful contacts established within the frame of the Action:
- 2005/2006 French-Lusitanian joint research Programme „Efflux Pumps and MDR in Pathogen Bacteria (J.M. Pagès/ L. Amaral)
- 2005/2006 Belgique- Hungarian joint research Programme „ Reversal of multidrug resistance of cancer"
- 2006/2007. Portuguese Hungarian Exchange Program (J. Molnar/L Amaral)

6.5 TRANSFER OF RESULTS

European patent No: 1432717 „ Substituted disiloxanes, methods for their manufacture and their use for reversing multidrug resistance (MDR)".

LIPONOVA, Hamburg, Humboldt University Berlin , Germany and University of Szeged, Hungary.

6.6 CONTACTS IN THE ERA

The following Programmes are in progress

- RTN Marie Curie MRTN-CT-2005-019335 „Translocation"(JM Pagès as a member)

7. ECONOMIC DIMENSION

2000	
Meetings	€ 38,400
STSM	€ 11,500
TOTAL	**€ 49,900**
2001	
Meetings	€ 35,088
TOTAL	**€ 35,088**
2002	
Meetings	€ 71,595
STSM	€ 11,500
TOTAL	**€ 83,095**
2003	
Meetings	€ 52,829
Publications	€ 7,080
TOTAL	**€ 59,909**
2004	
Meetings	€ 69,141
STSM	€ 5,106
TOTAL	**€ 74,247**
2005	
Meetings	€ 57,389
Workshop support	€ 2,570
TOTAL	**€ 59,959**
2006	
Meetings	€ 25,598
STSM	€ 1,711
Workshop support	€ 2,950
Publication	€ 2,048
Web site	€ 2,000
TOTAL	**€ 34,307**
TOTAL ON ACTION'S LIFETIME	**€ 386,507**

8. SELF EVALUATION

1. **Results versus Objectives**.

European Interaction and Cooperation.
This objective has been reached. Examples of this may be found in the listing of joint publications in the publication of the dedicated issue of the International Journal Antimicrobial Agents containing 24 articles from MC members; from the Special Issue of In Vivo 2005; 19 that contained 17 articles from members of Cost B16; from the and publication of a special issue of Current Drug Targets 2006;7: 789-910 containing 14 articles from Cost B16 members; from the special issue of Journal of Chemotherapy that will contain at least 11 articles from members of Cost B16 and which is to be published in 2006 and from publication record of Cost b16 Members that lists almost 400 publications during the period of Cost B16 as well as from the many sypmposia provided by Cost B16 at international meetings. All of this provides ample evidence that the goal of interaction and cooperation was successfully completed and involved almost all MC members.

Outcome and achievements
The noted close cooperation between MC members and expert associated groups has resulted in the synthesis of a large number of compounds have been and continue to be analysed for their properties with respect to efflux pumps of micro-organisms, parasites and cancer.
MC members in various countries have successfully obtained grants which supports the production of derivatives from biologically active drugs that promise to overcome antibiotic resistance in bacteria.

Impact of COST Action B16.
The activities of Action have been extended beyond the European continent for the purpose of evaluating results at the clinical level, a necessary requirement for the extension of these findings to the management of infectious diseases in Europe. Protocols involving the use of new and old compounds for the management of infectious disease are now in progress in Africa (malaria/thioridazine-Walter Reed Hospital), new variant CJD (Stanley Prussiner, San Francisco); Multi-drug resistant *Mycobacterium tuberculosis* (Buenos Aires, Argentina); patents have been obtained for new compounds designed by MC members. The derivatives of phenothiazines made by the Hungarian MC members are to be patented and assigned to Portugal as per grant agreement. Plans for Clinical Trials of phenothiazine compounds for the therapy of MDR tuberculosis have been drawn up by L Amaral and Martin Boeree of the Netherlands. The trials are to take place in Tanzania hopefully in 2007.

European Added Value.
In many European cities, the incidence of new infections of MDR, TB and nosocomial infections of methicillin resistant *Staphylococcus aureus* are costly in terms of human suffering and costly in terms of economics. The research conducted by the MC members has contributed to the identification of new compounds which are highly effective against intracellular infections by these pathogens. These compounds work where others fail and it is expected that when used at the needed level the incidence of these infections will be drastically reduced and the associated costs obviated. It should be stated that the early recognition by the MC members that there is a strong relationship in the biology of cancer and parasites with respect to the mechanisms that render resistance to antibiotics. Much of what is now being learned from the activities of COST Action B16 research can be applied to both areas.

Coordination, Management Working Groups.
The MCM and WG meetings have shown an active and effective cooperative work as illustrated by the listing of joint publications, joint organisation of international symposia and work-shops and joint organisation of special issues of international Journals. The interaction of the members of Cost B16 transcended from one Working Group into another (example-WG2 and WG4 (joint meetings in Paris 2003, Rhodes 2004 and Paris 2005) WG2 and WG3 (Corfu).

To sum up, strengths of the COST Action B16 are

a) Strong Cooperation.
b) No dominance by any member or country of the COST B16 action.
c) High ethical and moral standards of MC of the COST B16 action.

while no outstanding weaknesses were noticed except for more representation from the medical community (only five physician trained are members of Cost B16).

PUBLICATIONS FROM THE MEMBERS OF COST B16

2000

1. Cavigiolio G, Benedetto L, Boccaleri E, **Colangelo D**, **Viano I**, Osella D.
Pt(II) complexes with different N-donor aromatic ligands for specific inhibition of telomerase. Inorg. Chim. Acta 2000 305:61-68.

2.Szabo, Diana; Keyzer, Hendrik; Kaiser, Hans E.; **Molnar, Joseph.** Reversal of multidrug resistance of tumor cells. Department of Medical Microbiology, University of Szeged, Szeged, Hung. Anticancer Res. (2000), 20(6B), 4261-4274.

3.Liang, Y.S., **Coles, G.C**. and Doenhoff, M.J. Detection of praziquantel resistance in schistosomes. 2000 Trop. Med. Intl. Hlth. 5, 72.

4. Downs, A.M.R., Stafford, K.A. and **Coles, G.C**. The in vitro activity of imidacloprid and fipronil against permethrin-malathion resistant head lice. 2000 Med. Vet. Entomol. 14, 1-3.

5. Coles, G.C., Rhodes, A.C and Stafford, K.A. The activity of closantel against adult triclabendazole-resistant Fasciola hepatica. 2000 Vet. Rec. 146, 504.

6. Hejmadi, M.V., Jagannathan, S., Delany, N.S., **Coles, G.C.** and Wolstenholme, A.J. L-Glutamate binding sites of parasitic nematodes: an association with ivermectin resistance? 2000 Parasitol. 120, 535-545.

7. Coles, G.C. and Stafford, K.A. The activity of oxyclozanide, nitroxynil, clorsulon and albendazole against adult triclabendazole resistant Fasciola hepatica. 2000 Vet. Rec. 148, 723-724.

8. von Samson-Himmelstjerna G, Harder A, Schnieder T, Kalbe J, Mencke T. In vivo activities of the new anthelmintic depsipeptide PF 1022A. 2000 Parasitol. Res. 86, 194-199.

9. Moll L, Gaasenbeek CPH, Vellema P, **Borgsteede FHM**. Resistance of *Fasciola hepatica* against triclabendazole in cattle and sheep in the Netherlands. 2000 Vet. Parasitol. 91, 153-158.

10. Nicolay F, **Harder A, von Samson-Himmelstjerna G**, Mehlhorn H. Synergistic action of a cyclic depsipeptide and piperazine on nematodes. 2000 Parasitol. Res. 86, 982-92.

11. Shah, Anamik; Gaveriya, Harsukh; Motohashi, Noboru; Kawase, Masami; Saito, Setsuo; Sakagami, Hiroshi; Satoh, Kazue; Tada, Yukio; Solymosi, Agnes; Walfard, Kristina; **Molnar, Joseph.** 3,5-Diacetyl-1,4-dihydropyridines: synthesis and MDR reversal in tumor cells. Anticancer Res. (2000), 20(1A), 373-377.

12. J.E. Kristiansen and J.B. Hansen: Inhibition of HIV replication by neuroleptic agents and their potential use in HIV infected patients with AIDS related dementia**.** INTERNATIONAL JOURNAL OF ANTIMICROBIAL AGENTS 14: 209-213 (2000).

13. P. Andersen, H. Colding and **J.E. Kristiansen** Potentiation of the action of metronidazole on Helicobacter pylori by omeprazole and bismuth subcitrate INTERNATIONAL JOURNAL OF ANTIMICROBIAL AGENTS 14: 231-234 (2000)

14. K. Lind and **J.E. Kristiansen**. Effect of some psychotropic drugs and a barbiturate on mycoplasmas**.**INTERNATIONAL JOURNAL OF ANTIMICROBIAL AGENTS 14: 235-238 (2000)

15. Gunics Gy., Motohashi N., **Amaral L.,** Farkas S., Molnár J.**:** Interaction between antibiotics and non-conventional antibiotics on bacteria. *Int. J. Antimicrob. Agents* **14**, 239-242 (2000)

16. Miskolci Cs., Labádi I., Kurihara T., Motohashi N., **Molnár J**.: Guanine-cytosine rich regions of plasmid DNA can be the target in anti-plasmid effect of phenothiazines. *Int. J. Antimicrob. Agents* **14**, 243-247 (2000)

17. Branny, P., J.P. Pearson, E.C. Pesci, **T. Köhler**, B.H. Iglewski and C. van Delden. Inhibiton of quorum sensing by a Pseudomonas aeruginosa dksA homolog**ue** J. BACTERIOL. 2001; 183 :1531-1539.

18. . F., **T. Köhler**, P. Plésiat, M. Michéa-Hamzehpour, J. Frey and J.-C. Pechère .
C-terminal region of Pseudomonas aeruginosa outer membrane porin OprD modulates susceptibility to meropenem. Epp**,** ANTIMICROB. AGENTS CHEMOTHER. 2001; 45 :1780-1787.

19. Antimicrob. Agents Chemother. Tateda, K., C. Rachel, J.-C. Pechère, **T. Köhler**, Y. Keizo, and C. van Delden Azithromycin inhibits quorum sensing in Pseudomonas aeruginosa. 1. 2001; 45 :1930-1933.

20. Charbonnier, F., **T. Köhler**, J.-C. Pechère, and A. Ducruix . Overexpression, refolding and purification of the histidine-tagged outer membrane efflux protein OprM of Pseudomonas aeruginosa**.** PROT. EXP. PURIF. 2001;23 : 121-127.

21. Köhler, T., C. van Delden, L. Kocjancic Curty, M. Michéa Hamzehpour and J.-C. Pechère . Overexpression of the MexEF-OprN multidrug efflux system affects cell-to-cell signaling in Pseudomonas aeruginosa J. BACTERIOL. 2001;183 :5213-5222.

22. Michalkova-Papajova, D., Obernauerova, G., & **Subik, J.** Role of the PDR gene network in yeast susceptibility to the antifungal antibiotic mucidin ANTIMICROB. AGENTS CHEMOTHER. 2000; 44, 418-420.

23. Brunelleschi S, Penengo L, Lavagno L, Santoro C, **Colangelo D**, Viano I, Gaudino G.
Macrophage stimulating protein (MSP) evokes superoxide anion production by human macrophages of different origin. Br J Pharmacol. 2001 Nov;134(6):1285-95.

24. Lavagno L, Bordin G, **Colangelo D, Viano I**, Brunelleschi S. Tachykinin activation of human monocytes from patients with rheumatoid arthritis: in vitro and ex-vivo effects of cyclosporin A. Neuropeptides. 2001 Apr;35(2):92-9.

25. Colella G, Pennati M, Bearzatto A, Leone R, **Colangelo D**, Manzotti C, Daidone MG, Zaffaroni N. Activity of a trinuclear platinum complex in human ovarian cancer cell lines sensitive and resistant to cisplatin: cytotoxicity and induction and gene-specific repair of DNA lesions. Br J Cancer. 2001 May 18;84(10):1387-90.

26. Lage, Hermann; Kellner, Udo; Tannapfel, Andrea; Dietel, Manfred. Expression of a glypican-related 62-kDa antigen is decreased in hepatocellular carcinoma in correspondence to the grade of tumor differentiation. Charite Campus Mitte, Institute of Pathology, Humboldt University Berlin, Schumannstrasse 20/21, Berlin, Germany. Virchows Arch. (2001), 438(6), 567-573.

27. Kowalski, Petra; Wichert, Anke; Holm, Per Sonne; Dietel, Manfred; **Lage, Hermann**. Selection and characterization of a high-activity ribozyme directed against the antineoplastic drug resistance-associated ABC transporter BCRP/MXR/ABCG2. Institute of Pathology, Humboldt University Berlin, Berlin, Germany. Cancer Gene Ther. (2001), 8(3), 185-192.

28. Materna, Verena; Holm, Per Sonne; Dietel, Manfred; **Lage, Hermann**. Kinetic characterization of ribozymes directed against the cisplatin resistance-associated ABC transporter cMOAT/MRP2/ABCC2. Institute of Pathology, Humboldt University Berlin, Berlin, Germany. Cancer Gene Ther. (2001), 8(3), 176-184.

29. Simonics, T., Kozovska, Z., Michalkova-Papajova, D., Delahodde, A., Jacq, C., & **Subik, J.** Isolation and molecular characterisation of the carboxy-terminal pdr3 mutants in Saccharomyces cerevisiae CURR. GENET. 2000; 38, 248-255.

30. Joint-Lambert, O.F., M. Michéa-Hamzehpour, **T. Köhler**, F. Chau, F. Faurisson, S. Dautrey, C. Carbon and J.C.-Pechère. Differential selection of multidrug efflux mutants by trovafloxacin and ciprofloxacin in the experimental model of Pseudomonas aeruginosa acute pneumonia in rats ANTIMICROB. AGENTS CHEMOTHER. 2000;45 :571-576.

31. Kozovska, Z., Maraz, A., Magyar, I., & **Subik, J**. Multidrug resistance as a dominant molecular marker in transformation of wine yeast**.**J BIOTECHNOL. 2001; 92, 27-35.

32. Hendrich A B; Wesolowska O; **Michalak K** Azine induces domain formation in zwitterionic phosphatidylcholine but not in charged phosphatidylglycerol bilayers. Department of Biophysics, Wroclaw Medical University, Ul. Chalubinskiego 10, 50-368, Wroclaw, Poland BIOCHIMICA ET BIOPHYSICA ACTA (2001 Feb 9), 1510(1-2), 414-25.

33. A. Mrozek, J. **Karolak-Wojciechowska**, P. Amiel, J. **Barbe** Five-membered heterocycles. Part I. Application of the HOMA index to 1,2,4-trizoles**.** J.MOL.STRUCT. 2000;424:151-157.

34. A.Mrozek, **J. Karolak- Wojciechowska**, P. Amiel, **J. Barbe**. Five-membered heterocycles. Part II crystal structures and HOMA index calculations for selected 1,3,4-thiadiazole derivatives J.MOL.STRUCT , 2000; 524:159-167.

35. Motohashi N; Kawase M; Shirataki Y; Tani S; Saito S; Sakagami H; Kurihara T; Nakashima H; Wolfard K; Mucsi I; Varga A; **Molnar J** Biological activity of feijoa peel extracts. Meiji Pharmaceutical University, Kiyose, Tokyo 204-8588, Japan ANTICANCER RESEARCH (2000 Nov-Dec), 20(6B), 4323-9

36. Gy. HAJÓS, Zs. RIEDL, **J. MOLNÁR**, and D. SZABÓ: Non-nucleoside reverse transcriptase inhibitors. *Drugs of the Future*. 25 (1), 47-62 (2000).

37. D. CSÁNYI, **Gy. HAJÓS**, Zs. RIEDL, G. TIMÁRI, Z. BAJOR, F. COCHARD, J. SAPI, and J. -Y. LARONZE: Synthesis of two New Heteroaromatic ß-Carboline-fused Pentacycles. Observation of a New Intercalating Agent. *Bioorg. Med. Lett.*, **10**, 1767-1769 (2000).

38. M.J.Mokrosz, B. Duszynska, A. Wesolowska, J.Borycz, E. Chojnacka-Wójcik, J. **Karolak-Wojciechowska,.** 1-Aryl-1,4-dihydro-3(2H)-isoquinolinones: Two models of interaction with 5-HT1A receptors MED. CHEM.REAS. 2000;10: 58-68.

39. J. Karolak-Wojciechowska, From crystallographic data to the creation of a binding model with a receptor**.** IL FARMACO 2000;55: 197-199.

40. A. Mrozek, J. **Karolak-Wojciechowska**, P. Amiel, J. Barbe. Five-membered heterocycles PART III. POLISH J. CHEM. W DRUKU 2000.

41. A. Mrozek, J. **Karolak-Wojciechowska**, P.Amiel, **J.Barbe**. The quantitative analysis of structure-activity relationship in the acridine series. Part 2: Antitumor 9-thiadiazolo-acridine derivatives ACTA POL. PHARM.-DRUG REAS 2000;57: 425-430.

42. A. Mrozek, J. **Karolak-Wojciechowska**, P.Amiel, **J.Barbe** . The quantitative analysis of structure-activity relationship in the acridine series. Part 1: Antiparasitic 9-thioaryl-acridine derivatives ACTA POL. PHARM.-DRUG REAS 2000;57: 345-351.

43. Hernández-Allés,S., M.C. Conejo, A. Pascual, **J.M. Tomás**, V.J. Benedí and L. Martinez-Martinez). Relationship between outer membrane alterations and susceptibility to antimicrobial agents in isogenic strains of Klebsiella pneumoniae JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY 2000;46: 273-277.

44. Ward, A., Sanderson, N.M., O'Reilly, J., Rutherford, N.G., Poolman, B. and **Henderson, P.J.F**.. The amplified expression, identification, purification, assay and properties of histidine-tagged bacterial membrane transport proteins. In 'MEMBRANE TRANSPORT - A PRACTICAL APPROACH'CHAPTER 6. 2000: 141-166. BLACKWELL'S PRESS: OXFORD UK.

45. Appleyard, A., Herbert, R.B, **Henderson, P.J.F**., Watts, A. and . Spooner, P.J.R. Selective NMR observation of inhibitor and sugar binding to the galactose-H+ symport protein, GalP, of Escherichia col**.** BIOCHIM. BIOPHYS. ACTA 2000; 1509: 55- 64.

46. Henderson, P.J.F., Hoyle, C.J.and Ward, A. Expression. purification and properties of multidrug efflux proteins BIOCHEM. SOC. TRANS. 2000; 28: 513-517.

47. Shah, Anamik; Gaveriya, Harsukh; Motohashi, Noboru; Kawase, Masami; Saito, Setsuo; Sakagami, Hiroshi; Satoh, Kazue; Tada, Yukio; Solymosi, Agnes; Walfard, Kristina; **Molnar, Joseph.** 3,5-Diacetyl-1,4-dihydropyridines: synthesis and MDR reversal in tumor cells. Anticancer Res. 20(1A), 373-377. (2000).

48. Szabo, Diana; Keyzer, Hendrik; Kaiser, Hans E.; **Molnar, Joseph**. Reversal of multidrug resistance of tumor cells**.** Anticancer Res., 20(6B), 4261-4274. (2000).

49. Alvarez, D., S. Merino, **J.M. Tomás**, V.J. Benedí and S. Albertí. Capsular polysaccharide is a major complement resistance factor in lipopolysaccharide O side chain deficient Klebsiella pneumoniae clinical isolates INFECTION AND IMMUNITY 2000;68: 953-955.

50. Merino, S. and **J.M. Tomás**. Immune defence: microbial interference**.** ENCYCLOPEDIA OF LIFE SCIENCES 2000. MACMILLAN REFERENCE LIMITED (NATURE SCIENTIFIC AMERICAN PUBLISHING GROUP). (in press).

51. M. CASTAING, P. BROUANT, A. LOISEAU, Ch. SANTELLI-ROUVIER, M. SANTELLI, S. ALIBERT FRANCO, A. MAHAMOUD and **J. BARBE**, J. Pharm. Pharmacol., 2000, **52**, 289-296

52. M. CASTAING, A. LOISEAU and M. DANI, J. Pharm. Pharmacol., 2000, **52**, 1171-1178

53. Nogueras, M.M., S. Merino, A. Aguilar, V.J. Benedí and **J.M. Tomás** Cloning, sequencing and role in serum susceptibility of porin II from mesophilic Aeromonas sp. INFECTION AND IMMUNITY 2000;68: 1849-1854.

54. Merino, S., M. Altarriba, L. Izquierdo, M.M. Nogueras, M.Regué and **J.M. Tomás**. Cloning, sequencing of Klebsiella pneumoniae O5 wb gene cluster and their role in some pathogenic features INFECTION AND IMMUNITY 2000;68: 2435-2440

55. Amaral, L., **J. E. Kristiansen**, V. F. Thomsen and B. Markowich Acrylamide.
The effect of chlorpromazine on the outer cell wall constituents of Salmonella typhimurium ensuring resistance to the drug**.** INT. J. ANTIMICROB. AGENTS 2000; 14:225-229.

56. Viveiros, M.*, S. Bosne-David and **L. Amaral** (2000). Comparative activity of phenothiazines against Multi-Drug Resistant *Mycobacterium tuberculosis*. *Int. J. Antimicrob. Agents.* 16:69-71.

57. Gunics, G., N. Motohashi, **L. Amaral**, S. Farkas and **J. Molnar** (2000). Interaction between antibiotics and non-conventional antibiotics on different bacteria. *Int. J. Antimicrob. Agents* 14:239-242.

58. Amaral, L. and **J. E. Kristiansen**. (2000). Phenothiazines: An alternative to conventional management of suspect multidrug resistant tuberculosis. *Int. J. Antimicrob. Agents* 14:173-176.

59. Amaral, L., J. E. Kristiansen, V. F. Thomsen and B. Markowich. (2000). The effect of chlorpromazine on the outer cell wall constituents of *Salmonella typhimurium* ensuring resistance to the drug. *Int. J. Antimicrob. Agents* 14:225-229.

60. Amaral, L Management of intracellular infections with phenothiazines. Newsletter of the International Society of Chemotherapy. August 2000; vol 3: page 4.

61. Motohashi N., Kawase M.,Saito S., Sakagami H., Kurihara T., Nakashima H., Wolfard K., Mucsi I., **Varga A. and Molnar J**.: Biological activity of fejoa peel extracts. ANTICANCER RES. 2000;20 2323-4330.

62. Nemcova, I, Nesmerak, K, Jelinek, I, Nemec, I, Barbe, J: Characterization of newly synthesized thioacridine derivatives, their voltammetric behaviour and electrophoretic determination. Analytical Letters, 2001, 34, 1223-1232

63. Bosakova, Z, Tesarova, E, Coufal, P, Kafkova, B, Barbe, J: Separation and quantification of newly synthesized thioacridine derivatives using capillary liquid chromatography. Chem. Listy, 2001, 95, 569-574

64. Pumera, M, Matalova, R, **Jelinek, I,** Jindrich, J, Juza, J: Comparison of association constants of cyclodextrins and their tert-butyl derivatives with halogenbenzoic acids and acridine derivatives. Molecules, 2001, 5, 221-229.

65. . Coufal, P, **Bosakova Z,** Tesarová, E, Kafkova, B, Suchanková, J, Barbe, J: Quantification and purity determination of newly synthesized thioacridines by capillary liquid chromatography. Journal of Chromatography B 2001, 770: 183-189

66. Gunics, G., N. Motohashi, **L. Amaral**, S. Farkas and **J. Molnar**. Interaction between antibiotics and non-conventional antibiotics on different bacteria**.** INT. J. ANTIMICROB. AGENTS 2000; 14:239-242.

67. P.A.S. Korhonen, **E-M. Lilius**, S. Hyyppä, L.A. Räsänen, & AR. Pösö, Production of reactive oxygen species in neutrophils after repeated bouts of exercise in standardbred trotters. J. Vet. Med. A, 47 (2000) 567-573

68. Leea Pelto, Hanna-Kaisa Rantakokko, **Esa-Matti Lilius**, Jari Nuutila & Seppo Salminen, No difference in symptoms and receptor expression in lactose-intolerant and in milk hypersensitive subjects following intake of homogenized and unhomogenized milk. Int. Dairy J.10 (2000) 799-803.

2001

1. Butaye, P., L.A. Devriese, and F. Haesebrouck. 2001 Differences in antibiotic resistance patterns of *Enterococcus faecalis* and *Enterococcus faecium* strains isolated from pet and farm animals. Antimicrob. Agents Chemother., 45:1347-1378.

2. Butaye, P., L.A. Devriese, and F. Haesebrouck. 2001. Veterinair gebruikte ß-lactam antibiotica: activiteit en resistentie. Vlaams Diergen. Tijdschr., 70:172-179.

5. Hendrich, O. Wesolowska, **K. MICHALAK** Trifluoperazine induces domain formation in zwitterionic phosphatidylcholine but not in charged phosphatidylglycerol bilayers**.** Biochim. Biophys. Acta, 1510, 414-425, (2001).

6. K. MICHALAK, A.B. Hendrich, O.Wesolowska, A Polar Compounds that modulate multidrug resistance in cancer cells Cell. Mol. Biol Lett. 6 (2A), 362-368, (2001).

7. M. Bobrowska - Hägerstrand, A. Wróbel, B. Rychlik, G. Bartosz, T. Söderstöm, Y. Shirataki, N. Motohashi, **J. Molnar, K. MICHALAK, H. Hägerstrand** Monitoring of MRP-like Activity in Human Erythrocytes -Inhibitory Effect of Isoflavones. Blood Cells, Molecules, and Diseases. 27(5), 894-900, (2001).

8. A..B.Hendrich, O.Wesolowska, **K. MICHALAK** Differences and similarities in the influence of trifluoperazine on the phase transitions of phosphatidylcholine and phosphatidylethanolamine Current Topics in Biophysics, 25(2), 67-69, (2001).

9. O.Wesolowska, A. B. Hendrich, N. Motohashi, **K. MICHALAK**. Phenothiazine derivative causes phase separation in phosphatidylethanolamine model membranes. J Current Topics in Biophysics, 25(2), 71-73 (2001)

10. B. Rogers, A. Decottignies, M. Kolaczkowski, E. Carvajal, E. Balzi, A.Goffeau . The Pleitropic Drug ABC Transporters from Saccharomyces cerevisiae**.** Mol. Microbiol. Biotechnol. (2001), 3(2): 207-214.

11. McDonald, T.P. and **Henderson, P.J.F.** Cysteine residues in the D-galactose-H+ symport protein of Escherichia coli: effects of mutagenesis on transport, reaction with N-ethylmaleimide and antibiotic binding."BIOCHEM. J. 2001; 353: 709-717.

12. Ward, A., Hoyle, C.J., Palmer, S.E., O'Reilly, J., Griffith, J.K., Pos, K.M., Morrison, S.J., Poolman, B., Gwynne, M. and **Henderson, P.J.F**. Prokaryote multidrug efflux proteins of the major facilitator superfamily: amplified expression, purification and characterisation MOLEC. MICROBIOL. AND BIOTECH. 2001; 3: 193-200.

13. Marsh, D. and **Henderson, P.J.F**. Specific spin labelling of the sugar-H+ symport protein, GalP, in cell membranes of Escherichia coli**:** BIOCHIM. BIOPHYS. ACTA 2001; 1510: 454-473.

14. Hamilton, S.R., Yao, S.Y.M., Ingram, J.C., Hadden, D.A., Ritzel, M.W.L., Gallagher, M.P., **Henderson, P.J.F.,** Cass, C.E., Young, J.D. and Baldwin, S.A. Sub-cellular distribution and membrane topology of the mammalian concentrative Na+-nucleoside co-transporter rCNT1J. BIOL. CHEM. 2001; 276: (In press)

15. Gryllos, I., J.G. Shaw, R. Gavín, S. Merino and **J.M. Tomás**. The role of the flm operon in mesophilic Aeromonas sp. adherence INFECTION AND IMMUNITY 2001;69: 65-74.

16. Regué, M., N. Climent, N. Abitiu, N. Coderch, S. Merino, M. Altarriba, L. Izquierdo and **J.M. Tomás)**. Genetic characterization of the Klebsiella pneumoniae waa gene cluster involved in core lipopolysaccharide biosynthesis**.** JOURNAL OF BACTERIOLOGY 2001;183: 3564-3573.

17. Rabaan, A.A., I. Gryllos, **J.M. Tomás** and J.G. Shaw. Motility and the polar flagellum are required for Aeromonas caviae adherence to HEp-2 cells INFECTION AND IMMUNITY 2001;69: 4257-4267.

18. Merino, S., R. Gavín, M. Altarriba, L. Izquierdo, M.E. Maguire and **J.M. Tomás**. The MgtE Mg2+ transport protein is involved in Aeromonas hydrophila adherence FEMS MICROBIOLOGY LETTERS 2001;198: 189-195.

19. Merino, S., M. Altarriba, R. Gavín, L. Izquierdo and **J.M. Tomás** The cell division genes (ftsE and X) of Aeromonas hydrophila: its relationship with opsonophagocytosis FEMS MICROBIOLOGY LETTERS 2001;98: 183-188.

20. Sharples D, **J Molnar**, D Szabo, **Gy Hajos**, Zs Riedl, D Csanyi Ellipticine analogues and related compounds as inhibitors of reverse transcriptase and as inhibitors of the efflux pump
Archiv der Pharmazie. (2001).

21. Berek, Livia; Szabo, Diana; Petri, Ildiko B.; Shoyama, Yukihiro; Lin, Yer-Huei; **Molnar, Joseph**. Effects of naturally occurring glucosides, solasodine glucosides, ginsenosides and parishin derivatives on multidrug resistance of lymphoma cells and leukocyte functions.. Institute of Microbiology, Faculty of Medicine, University of Szeged, Szeged, Hung. In Vivo (2001), 15(2), 151-156.

22. Gunics, Gyongyi; Motohashi, Noboru; **Molnar, Joseph**; Farkas, Sandor; Kawase, Masami; Saito, Setsuo; Shah, Anamik. Enhanced antibacterial effect of erythromycin in the presence of 3,5-dibenzoyl-1,4-dihydropyridines. Faculty of Medicine, Albert Szent-Gyorgyi Medical University, Szeged, Hung. Anticancer Res. (2001), 21(1A), 269-273.

22. Amaral, L Management of intracellular infections with phenothiazines**.** NEWSLETTER OF THE INTERNATIONAL SOCIETY OF CHEMOTHERAPY. August 2001; vol 3: page 6.

23. D. SHARPLES, J. MOLNÁR, D. SZABÓ, **Gy. HAJÓS**, Zs. RIEDL, and D. CSÁNYI: Ellipticine Analogues and related Compounds as Inhibitors of Reverse Transciptase and as Inhibitors of the Efflux Pump. *Archiv der Pharmazie*, **331**, 269-74 (2001).

24. BOSAKOVA Z, TESAROVA E, COUFAL P, KAFKOVA B & **BARBE J**: Separation and quantification of newly synthesized thioacridine derivatives using capillary liquid chromatography. *Chem. Listy* 2001, **95**, 569-574

25. PUMERA M, MATALOVA R, JELINEK I, JINDRICH J & JUZA J: Comparison of association constants of cyclodextrins and their tert-butyl derivatives with acridine derivatives and halogenbenzoic acids. *Molecules* 2001, **5**, 221-229.

26. MOSINGER J, TOMANKOVA V, **NEMCOVA I** & ZYKA J: Cyclodextrins in analytical chemistry. *Analytical Letters* 2001, **34**,1979-2004.

27. Berek L, Szabo D Petri, Ildiko, B. Shoyama Y, Lin YH, **Molnar**, J. Effects of naturally occurring glucosides, solasodine glucosides, ginsenosides and parishin derivatives on multidrug resistance of lymphoma cells and leukocyte functions**.** In Vivo 15(2), 151-156. (2001).

28. Gunics, Gyongyi; Motohashi, Noboru; **Molnar**, Joseph; Farkas, Sandor; Kawase, Masami; Saito, Setsuo; Shah, Anamik. Anticancer Res. 21(1A), 269-273. (2001).

29. Lage, Hermann; Kellner, Udo; Tannapfel, Andrea; Dietel, Manfred. Expression of a glypican-related 62-kDa antigen is decreased in hepatocellular carcinoma in correspondence to the grade of tumor differentiation Virchows Arch. 438(6), 567-573. (2001).

30. Kowalski, Petra; Wichert, Anke; Holm, Per Sonne; Dietel, Manfred; **Lage, Hermann**.
Selection and characterization of a high-activity ribozyme directed against the antineoplastic drug resistance-associated ABC transporter BCRP/MXR/ABCG2. Cancer Gene Ther. 8(3), 185-192.

31. (2001). Gaasenbeek CPH, Moll L, Cornelissen JBWJ, Vellema P, **Borgsteede FHM**. An experimental study on triclabendazole resistance of *Fasciola hepatica* in sheep. 2001 Vet. Parasitol. 95, 37-43.

32. Saeger B, Schmitt-Wrede HP, Dehnhardt M, Benten WP, Krucken J, **Harder A, von Samson-Himmelstjerna G**, Wiegand H, Wunderlich F. Latrophilin-like receptor from the parasitic nematode Haemonchus contortus as target for the anthelmintic depsipeptide PF1022A. 2001 FASEB J. 15, 1332-1334.

33. Zahner H, Taubert A, **Harder A, von Samson-Himmelstjerna G**. Effects of Bay 44-4400, a new cyclodepsipeptide, on developing stages of filariae (Acanthocheilonema viteae, Brugia malayi, Litomosoides sigmodontis) in the rodent Mastomys coucha. 2001 Acta Trop. 80, 19-28.

34. von Samson-Himmelstjerna G, Harder A, Pape M, Schnieder T. Novel small strongyle (Cyathostominae) beta-tubulin sequences. 2001 Parasitol. Res. 87, 122-125.

35. Zahner H, Taubert A, Harder A, **von Samson-Himmelstjerna G**. Filaricidal efficacy of anthelmintically active cyclodepsipeptides. 2001 Int. J. Parasitol. 13, 1515-22.

36. Harder A**, von Samson-Himmelstjerna G**. Activity of the cyclic depsipeptide emodepside (BAY 44-4400) against larval and adult stages of nematodes in rodents and the influence on worm survival. 2001 Parasitol. Res. 11, 924-8.

37. Varga A., Sabat R., Mucsi I., Flores V.C., Kaiser H.E.and **Molnar J** Effects of butaclamol, clopenthixol, mepromazine and cannabiol stereoisomers in apoptosis induction**.** ANTICANCER RES. 2001;21 1-4.

38. Materna, Verena; Holm, Per Sonne; Dietel, Manfred; **Lage, Hermann**. Kinetic characterization of ribozymes directed against the cisplatin resistance-associated ABC transporter cMOAT/MRP2/ABCC2. Cancer Gene Ther, 8(3), 176-184. . (2001).

39. Hendrich A B; Wesolowska O; **Michalak K** Trifluoperazine induces domain formation in zwitterionic phosphatidylcholine but not in charged phosphatidylglycerol bilayers. Biochimica Et Biophysica Acta 1510(1-2), 414-25. (2001).

40. Várady M, Konigová A, Corba J. Benzimidazole resistance in equine cyathostomes in Slovakia. 2000 Vet. Parasitol. 94, 67-74.

41. Šnábel V, DeMeews T, **Várady M**. The sexually linked Mpi locus is presumably involved in imidothiazole resistance in Oesophagostomum dentatum parasites. 2000 Parasitol. Res. 86, 486-490

42. Giraud E, Cloeckaert A, **Kerboeuf D**, Chaslus-Dancla E. Evidence for active efflux as primary mechanism to ciprofloxacin in *Salmonella typhimurium*. 2000 Antimicrobial Agents and Chemotherapy 44, 1223-1228.

43. Kerboeuf D, Hubert J and Alvinerie M. Localization and migration of benzimidazole resistant and susceptible adult *Cooperia curticei* in the small intestine of sheep after treatment with thiabendazole. 2000 Vet. Parasitol., 93, 47-55.

44. Alvinerie M, Dupuy J, Eeckhoutte C, Sutra JF and **Kerboeuf D**. In vitro metabolism of moxidectin in *Haemonchus contortus* adult stages. 2001 Parasitol. Res. 87, 702-704.

45. Motohashi N; Kawase M; Shirataki Y; Tani S; Saito S; Sakagami H; Kurihara T; Nakashima H; Wolfard K; Mucsi I; **Varga A; Molnar** J . Biological activity of feijoa peel extracts
Anticancer Research, 20(6B), 4323-9. (2001).

46. Bettencourt-Viveiros M and **L. Amaral** Enhancement of antibiotic activity against PolyDrug Resistant *Mycobacterium tuberculosis* by phenothiazines. *Int. J. Antimicrob. Agents* 17:225-228. (2001)

47. Kristiansen, JE and **L. Amaral** Duodenal Inflammation: successful treatment unrelated to pre-conceived causes opens new areas for the management of bacterial infections with non-antibiotics. An example of "Scientific Serendipity. IN: "*Helicobacter pylori* 2001: Past Present and Future". Anthony P Moran (Editor). CD Rom (version 1.0); Normed Verlag, Bad, GmbH 2001, Homburg, Germany. Diskette Science. European Study Group on Pathogenesis and Immunology in Helicobacter Infection.

48. Amaral, L, JE Kristiansen, M. Viveiros and J. Atouguia. Activity of phenothiazines against antibiotic resistant *Mycobacterium tuberculosis*: A review supporting further studies that may elucidate the potential use of Thioridazine as an anti-TB agent. *J Antimicrobial Chemother* 2001; 47: 505-7.

49. Amaral, L, M. Viveiros, **JE Kristiansen**. Phenothiazines: potential alternatives for the management of antibiotic resistant infections of tuberculosis and malaria in developing countries. *Trop Med Int Health* 6:1016-22. (2001).

50. Amaral L and **JE Kristiansen** Phenothiazines: Potential management of Creutzfeldt J akob Disease and its variants. *Int J Antimicrob Agents* 18:411-417. (2001).

51. Molnár J, Mucsi I, Hohmann J, J.Kiss J T,Molnár P,Tóth Gy,Thalhammer T, **Sharples D**, and Motohashi N. New compounds to reverse multidrug resistance of cancer cells**.** ILAR CONFERENCE ON NEW ANTIBIOTIC AGENTS Athens 9 - 12 June 2001.

52. Hendrich, A.B, Wesolowska, O, **Michalak, K** Biochim. Trifluoperazine induces domain formation in zwitterionic phosphatidylcholine but not in charged phosphatidylglycerol bilayers BIOPHYS.ACTA 2001; 1510, 414-425.

53. R. CZYLKOWSKI, **J. KAROLAK-WOJCIECHOWSKA**, A. MROZEK, I. **YALÇIN AND E. SENER,** Conformation of a spacer in biologically active molecules. Part 1. Structure and conformational preferences of 2-substituted benzoxazoles, J. Mol. Struct., 2001, **598**, 197-205.

54. SHARPLES D., HAJÓS Gy., RIEDL Zs., CSÁNYI D., **MOLNÁR J**., SZABÓ D. Ellipticine analogues and related compounds as inhibitors of reverse transcriptase and as inhibitors of the efflux pump. *Arch. Pharm. Pharm. Med. Chem*. **334**, 269-274 (2001).

54. Z. BOSAKOVA, E. TESAROVA, P. COUFAL, B. KAFKOVA and **J. BARBE**, Chem. Listy, **95**, 569-574 (2001)

55. P. COUFAL, Z. BOSAKOVA, E. TESAROVA, B. KAFKOVA, J. SUCHANKOVA and J. **BARBE, J**. Chrom. B, **770**, 183-189 (2001)

56. I. NEMCOVA, K. NESMERAK, I. JELINEK, I. NEMEC and **J. BARBE**, Analytical Letters 2001, **34**, 1223-1232.

57. M. CASTAING, A. LOISEAU and M. DANI, J. Pharm. Pharmacol., 2001, **53**, 1021-1028

58. Y. PICO, G. FONT, R. BALANA-FOUCE, C. ORDONEZ, D. ABBAS and **J. BARBE**, Rapid Comm. Mass Spectrom., 2001, **15**, 861-866

59. Michalak, K, Hendrich, A.B, Wesolowska, O, Pola, A. Compounds that modulate multidrug resistance in cancer cells CELL. BIOL. MOL. LETT. 2001; 6: 362-368.

60. Bobrowska - Hägerstrand, M, Wróbel, A, Rychlik, B, Bartosz, G, Söderstöm, T, Shirataki, Y, Motohashi, N, **Molnar, J, Michalak, K, Hägerstrand, H**. Monitoring of MRP-like Activity in Human Erythrocytes -Inhibitory Effect of Isoflavones. BLOOD CELLS, MOLECULES, AND DISEASES. 2001; 27:894-900.

61. Hendrich, A.B, Wesolowska, O, **Michalak, K**.- Differences and similarities in the influence of trifluoperazine on the phase transitions of phosphatidylcholine and phosphatidylethanolamine CURRENT TOPICS IN BIOPHYSICS- in press

60. Wesolowska, O, Hendrich, A.B, Motohashi, N, **Michalak, K**. Phenothiazine derivative causes phase separation in phosphatidylethanolamine model membranes CURRENT TOPICS IN BIOPHYSICS - in press. A.B. Hendrich, O. Wesołowska, **K. Michalak**. Trifluoperazine induces domain formation in zwitterionic phosphatidylcholine but not in charged phosphatidylglycerol bilayers – Biochim. Biophys. Acta, 1510, 414-425, (2001).

61. K. Michalak, A.B. Hendrich, O.Wesołowska, A. Poła Compounds that modulate multidrug resistance in cancer cells. Cell. Mol. Biol Lett. 6 (2A), 362-368, (2001)

62. M. Bobrowska - Hägerstrand, A. Wróbel, B. Rychlik, G. Bartosz, T. Söderstöm, Y. Shirataki, N. Motohashi, J. Molnar, **K. Michalak**, H. Hägerstrand. Monitoring of MRP-like activity in human erythrocytes - inhibitory effect of isoflavones. Blood Cells, Molecules, and Diseases. 27(5), 894-900, (2001).

63. A.B. Hendrich, O. Wesołowska, **K. Michalak** Differences and similarities in the influence of trifluoperazine on the phase transitions of phosphatidylcholine and phosphatidyl-ethanolamine. Current Topics in Biophysics 25 (2), 67-69, (2001).

64. O. Wesołowska, A. B. Hendrich, N. Motohashi, **K. Michalak** Phenothiazine derivative causes phase separation in phosphatidylethanolamine model membranes Current Topics in Biophysics 25(2), 71-73 (2001).

65. Nemcova, I, Nesmerak, K, Jelinek, I, Nemec, I, **Barbe J.** Characterization of newly synthesized thioacridine derivatives, their voltammetric behaviour and electrophoretic determination JANALYTICAL LETTERS 2001; 34: 1223-1232 .

66. Bosakova, Z, Tesarova, E, Coufal, P, Kafkova, B, **Barbe. J**: Separation and quantification of newly synthesized thioacridine derivatives using capillary liquid chromatography CHEM. LISTY 2001; 95: 569-574.

67. Pumera, M, Matalova, R, Jelinek, I, Jindrich, J, Juza. Comparison of association constants of cyclodextrins and their tert-butyl derivatives with halogenbenzoic acids and acridine derivatives**.** J MOLECULES 2001; 5: 221-229.

68. Coufal, P, Bosakova Z, Tesarová, E, Kafkova, B, Suchanková, J, **Barbe, J**. Quantification and purity determination of newly synthesized thioacridines by capillary liquid chromatography JOURNAL OF CHROMATOGRAPHY B 2001 (accepted for publication).

69. Matovu, E., Geiser, F., Schneider, V., **Mäser, P**., Enyaru, J. C. K., Kaminsky, R., Gallati, S. and **Seebeck,T**. Trypanosoma brucei: genetic variants of the TbAT1 adenosine transporter amongst relapse infections following melarsoprol treatment MOL. BIOCHEM. PARASITOL. 2001, vol 117, 73 - 81.

70. Kawasa M., Shah A., Gaveriya H., Motohashi N., Sakagami H., Varga A. and **Molnar J**. 3,5-Dibenzoyl-1,4-dihydropyridines: Synthesis and MDR Reversal in Tumor Cells BIOORGANIC & MEDICAL CHEMISTRY (in Press).

71. J.Karolak-Wojciechowska, A. Fruzinski, M. J. Mokrosz.. Structures and conformational analysis of new arylopiperazines with n-butyl chain J. MOL. STRUCT. THEOCHEM 2001; 542: 47-59.

72. J. Lange, **J. Karolak-Wojciechowska**, K.Wejroch, S. Rump; A structure-activity relationship study of the affinity of selected imidazo[1,2-a]pyridine compounds, congeners of zolpidem, for the ?1-subtype of the benzodiazepine receptor ACTA POL. PHARM.-DRUG REAS 2001; 58: 43-52.

73. K. Kiec-Kononowicz, **J. Karolak-Wojciechowska**, A. Mrozek,. Structure and activity studies of glycine receptor ligands. Part 7. Structural remarks on arylidene-imidazoline-4-one glycinates and glycinamides J MOL. STRUCT 2001;597: 73-81.

74. K. Kiec-Kononowicz**, J. Karolak-Wojciechowska**, C. E. Müller, B. Schumacher, E. Pekala, E. Szymanska. Imidazo-thiazine, -diazinone and -diazepinone Derivatives. Synthesis, Structure and Benzodiazepine Receptor Binding EUR.J.MED.CHEM 2001;36: 407-419.

75. R. Czylkowski, **J. Karolak-Wojciechowska**, A. Mrozek, I. **Yalçin and E. Sener**, , Conformation of a spacers in biologically active molecules. Part 1. Structure and conformational preferences of 2-substituted benzoxazoles J. MOL. STR. 2001;598/2-3: 197-205.

76. K. Kiec-Kononowicz, C.E. Müller, E. Pekala, **J. Karolak-Wojciechowska**, J. Handzlik, D. Lazewska . Imidazo[2,1-b]thiazoles, imidazo[2,1-b]imidazoles and pyrrolo [1,2-c]imidazoles. Synthesis, structure and evaluation of benzodiazepine receptor binding.J. HETEROCYCL. CHEM W DUKU 2001.

77. K.Wejroch, J.Lange, **J.Karolak-Wojciechowska**, J.Sosnicki, T. Jagodzinski, A.Kielak:. Bicyclic [b]-Heteroannulated Pyridazine Derivatives. 9 .Cyclization Reactions of 4,4-Dimethyl- and 4-Phenyltetrahydropyridazine-3,6-dione 3-Hydrazones with Esters of Keto Dicarboxylic Acids J HETEROCYC. CHEM , 2001;38: 877-884.

78. A Fruzinski, **J. Karolak-Wojciechowska**, S. Alibert-Franco, C. Santelli-Rouvier, **J. Barbe**.
Crystal structure of 11-cyano-12 -(11',12'-epoxy-11'-cyano-9',10'-ethano-9',10'-dihydroanthracene) -9,10-etheno - 9,10-dihydroanthracene. C34H20N2O x 0.5 C3H6O Z. KRYSTALLOGR. NCS , 216, 471-473, 2001.

79. Kawase M., Motohashi N., Sakagami H., Kanamoto T., Nakashima H., Ferenczy L., Wolfard K., Miskolci Cs., **Molnár J**.: Antimicrobial activity of trifluoromethyl ketones and their synergism with promethazine. *Int. J. Antimicrob. Agents* **18**, 161-165 (2001)

79. A.Mrozek, **J. Karolak-Wojciechowska**, A. Pascale, **J. Barbe**. Crystal and molecular structure of 9- (thio-2-methyl-4-nitrophenyl)acridine**.**POL. J. CHEM. 2001 in press.

80. Papadopoulos, E., Himonas, C. and **Coles, G.C**. Drought and flock isolation may enhance the development of anthelmintic resistance in nematodes. 2001 Vet. Parasitol. 97, 253-259.

81. Liang, Y.S., **Coles, G.C.**, Doenhoff, M.J. and Southgate V. In vitro responses of praziquantel-resistant and -susceptible Schistosoma mansoni to praziquantel. 2001 Int. J. Parasitol. 31, 1227-1235.

82. Liang, Y.S., Dai, J.R., Ning, A., Yu, D.B., Xu, X.J., Zhu, Y.C. and **Coles, G.C**. Susceptibility of Schistosoma japonicum to praziquantel. 2001 Trop.Med.Intl.Hlth. 6, 1-7.

83. Liang, Y.S., **Coles, G.C.**, Dai, J.R., Zhu, Y.C. and Doenhoff, M.J. The fecundity of praziqunatel-resistant and -susceptible isolates of Schistosoma mansoni. 2001 Ann. Trop. Med. Parasitol. 95, 715-723.

84. Coles, G.C., Watson, C.L. and Anziani, O.S. Ivermectin-resistant Cooperia in cattle. 2001 Vet. Rec. 148, 283-284.

85. Familton, A.S., Mason, P. and **Coles, G.C**. Anthelmintic resistant Cooperia species in cattle. Vet.Rec. 149, 719-720.

86. Love, S.C.J. and **Coles, G.C**. 2002. Anthelmintic resistance in sheep worms in New South Wales, Australia. 2001 Vet. Rec.150, 87.

87. Konigová A, **Várady M**, Corba J .The prevalence of equine gastrointestinal parasites in the Slovak Republic. 2001 Helminthologia 38, 211-214.

88. **Sharples D, Hajos G**,Riedl Z and Csanyi D, **Molnar J**,and Szabo D. Ellipticine Analogues and Related Compounds as Inhibitors of Reverse Transcriptase and as Inhibitors of the Efflux Pump**.** ARCHIV FUR PHARMAZIE 2001; 334: 269-274.

89. Esa-Matti Lilius & Pertti Marnila, The role of colostral antibody in prevention of microbial infection. Curr. Opin. Infect. Dis. 14 (2001) 295-300.

2002

1. Takacova M., Sklenar P., Gbelska Y., Breunig K., **Subik J**. (2002) Isolation, heterological cloning and sequencing of the RPL28 gene in *Kluyveromyces lactis*. Curr. Genet. 42, 21-26

2. Tønjum, T. Impact of the EU FP6 program on microbiology. FEMS Circular 53:5, 2002

3. Hilgeroth A., Molnar J., De Clercq E. (2002), Mit molekularer Symmetrie zu neuen Wirkstoffen: Hydroxymethyl-substituierte 3,9-Diazatetraasterane als erste eigenständige Klasse symmetrischer MDR-Modulatoren, Angew. Chem., *114*, 3772-3775

4. Brachwitz K., Voigt B., **Molnar J.**, Meijer L., **Hilgeroth A**. (2002), Bifunctional Cytostatics: 1-Aza-9-oxafluorenes as Novel CDK-Inhibitors with P-GP Modulating Properties, Arch. Pharm. Pharm. Med. Chem., *335*, Suppl. 1, 75.

5. Pradines, B.; Rolain, J. M.; Ramiandrasoa, F.; Fusai, T.; Mosnier, J.; Rogier, C.; Daries, W.; Baret, E.; Kunesch, G.; Le Bras, J.; Parzy, D.Iron chelators as antimalarial agents: in vitro activity of dicatecholate against Plasmodium falciparum. Journal of Antimicrobial Chemotherapy (2002), 50(2)

6. Pradines, B.; Tall, A.; Rogier, C.; Spiegel, A.; Mosnier, J.; Marrama, L.; Fusai, T.; Millet, P.; Panconi, E.; Trape, J. F.; Parzy, D. In vitro activities of ferrochloroquine against 55 Senegalese isolates of Plasmodium falciparum in comparison with those of standard antimalarial drugs. Tropical Medicine & International Health (2002), 7(3), 265-270

7. Touze J E; Fourcade L; **Pradines B**; Hovette P; Paule P; Mechanism of action of antimalarials. Value of combined atovaquone/proguanil. Medecine tropicale (2002), 62(3), 219-24.

8. Mucsi, Ilona; **Varga, Andreas**; Kawase, Masami; Motohashi, Noboru; **Molnar, Joseph**. Interaction between various resistance modifiers and apoptosis inducer 12H-benzo[a]phenothiazine. Anticancer Research (2002), 22(5), 2833-2836.

9. Kawase, Masami; Sakagami, Hiroshi; Furuya, Kenichiro; Kikuchi, Hirotaka; Nishikawa, Hirofumi; Motohashi, Noboru; Morimoto, Yasunori; **Varga, Andreas**; **Molnar, Joseph**. Cell death-inducing activity of opiates in human oral tumor cell lines. Anticancer Research (2002), 22(1A), 211-214.

10. Kawase, Masami; Shah, Anamik; Gaveriya, Harsukh; Motohashi, Noboru; Sakagami, Hiroshi; **Varga, Andreas; Molnar, Joseph** 3,5-Dibenzoyl-1,4-dihydropyridines: Synthesis and MDR Reversal in Tumor Cells. Bioorganic & Medicinal Chemistry (2002), 10(4), 1051-1055.

11. Judit Hohmann, Peter Forgo, Joseph Molnar, Kriztina Wolfard, Annamaria Molnar, Theresia Thalhammer, Imrie Mathe and Derek Sharples: Antiproliferative Amaryllidaceae Alkaloids isolated from the bulbs of Sprekelia formosissima and Hymenocallis festalis. Planta Med (2002) 68: 454-457

12. Tabbi, Giovanni; Cassino, Claudio; Cavigiolio, Giorgio; **Colangelo, Donato**; Ghiglia, Annalisa; **Viano, Ilario**; Osella, Domenico.Water Stability and Cytotoxic Activity Relationship of a Series of Ferrocenium Derivatives. ESR Insights on the Radical Production during the Degradation Process. Journal of Medicinal Chemistry (2002), 45(26), 5786-5796.

13. Agostiano, A.; Catucci, L.; Castagnolo, M.; **Colangelo, D**.; Cosma, P.; Fini, P.; Della Monica, M. Interaction between chlorophyll a and b-cyclodextrin derivatives in aqueous solutions. Spectroscopic and calorimetric study. Journal of Thermal Analysis and Calorimetry (2002), 70(1), 115-122.

14. Pagnini, Ugo; Florio, Salvatore; Crispino, Luca; Pagnini, Giuseppe; **Colangelo, Donato**; Rocco, Daniela; Pacilio, Carmen; Pacilio, Maria; Macaluso, Marcella; Giordano, Antonio. Direct effect of a gonadotropin-releasing hormone agonist on the growth of canine mammary tumour cells. Journal of Cellular Biochemistry (2002), 85(3), 470-481.

15. Ludwig, Antje; Dietel, Manfred; **Lage, Hermann**. Identification of differentially expressed genes in classical and atypical multidrug-resistant gastric carcinoma cells. Anticancer Research (2002), 22(6A), 3213-3221.

16. Pohl, Antje; **Lage, Hermann**; Muller, Peter; Pomorski, Thomas; Herrmann, Andreas.Transport of phosphatidylserine via MDR1 (multidrug resistance 1) P-glycoprotein in a human gastric carcinoma cell line. Biochemical Journal (2002), 365(1), 259-268.

17. Lage, Hermann; Dietel, Manfred Multiple mechanisms confer different drug-resistant phenotypes in pancreatic carcinoma cells. Journal of Cancer Research and Clinical Oncology (2002), 128(7), 349-357.

18. Kowalski, Petra; Stein, Ulrike; Scheffer, George L.; Lage, Hermann. Modulation of the atypical multidrug-resistant phenotype by a hammerhead ribozyme directed against the ABC transporter BCRP/MXR/ABCG2. Cancer Gene Therapy (2002), 9(7), 579-586.

19. Poland, Julia; Schadendorf, Dirk; **Lage, Hermann**; Schnolzer, Martina; Celis, Julio E.; Sinha, Pranav. Study of therapy resistance in cancer cells with functional proteome analysis. Clinical Chemistry and Laboratory Medicine (2002), 40(3), 221-234.

20. Holm, Per S.; Bergmann, Stephan; Jurchott, Karsten; **Lage, Hermann**; Brand, Karsten; Ladhoff, Axel; Mantwill, Klaus; Curiel, David T.; Dobbelstein, Matthias; Dietel, Manfred; Gansbacher, Bernd; Royer, Hans-Dieter. YB-1 relocates to the nucleus in adenovirus-infected cells and facilitates viral replication by inducing E2 gene expression through the E2 late promoter. Journal of Biological Chemistry (2002), 277(12), 10427-10434.

21. Stein, Ulrike; **Lage, Hermann**; Jordan, Andreas; Walther, Wolfgang; Bates, Susan E.; Litman, Thomas; Hohenberger, Peter; Dietel, Manfred. Impact of BCRP/MXR, MRP1 and MDR1/P-glycoprotein on thermoresistant variants of atypical and classical multidrug resistant cancer cells. International Journal of Cancer (2002), 97(6), 751-760.

22. Pohl A, **Lage H**, Muller P, Pomorski T and Herrmann A Transport of phosphatidylserine via MDR1 P-Glycoprotein in a human gastric carcinoma cell line
Biochem J (2002) 305(1) 259-268

23. Lage H and Dietel M Multiple Mechanisms confer different drug resistant phenotypes in pancreatic carcinoma cells. J Cancer Research and Clinical Onchology (2002) 128(7) 349-357

24. Aarestrup, F.M., **P. Butaye**, and W. Witte. 2002. Nonhuman reservoirs of Enterococci. In: The enterococci: pathogenesis, molecular biology, and antimicrobial resistance (Eds. Gilmore M.S., D.B. Clewell, P.M. Courvalin, G.M. Dunny, B.E. Murray, L.B. Rice). ASM Press, Washington.

25. Devriese L.A., M. Vancanneyt, P. Descheemaeker, M. Baele, H.W. Van Landuyt, B. Gordts, **P. Butaye**, J. Swings, and F. Haesebrouck. 2002. Differentiation and identification of *Enterococcus durans, E. hirae, and E. villorum*. J. Appl. Microbiol., 92:821-827.

26. Kowalski P, Stein U, Scheffer G, **Lage H** Modulation of the atypical multi-drug resistant phenotype by a hammerhead ribosyme directed against the ABC transporter BCRP/MXR/ABCG2. Cancer Gene Therapy (2002) 9(7) 579-586

27. Rebecca Hodgkinson and **Derek Sharples**:Reversing Antibiotic Resistance (a review) Expert Opin.Investig.Drugs (2002) 11(8) 1023-1032

28. A.B.Hendrich, Wesolowska, O., Komorowska, M., Motohashi, N., **Michalak, K**. The alterations of lipid bilayer fluidity induced by newly synthesized phenothiazine derivative. *Biophys. Chem*. 98, 275-285, (2002).

29. Hendrich, R. Malon, A. Pola, Y. Shirataki, N. Motohashi, **K. Michalak**:Differential interaction of Sophora isoflavonoids with lipid bilayers. *European Journal of* A.B. *Pharmaceutical Sciences*. 16(3), 201-208, (2002).

30. A.B. Hendrich, R. Malon, A. Poła, Y. Shirataki, N. Motohashi, **K. Michalak** Differential interaction of *Sophora* isoflavonoids with lipid bilayers. Eur. J. Pharm. Sci. 16(3), 201-208, (2002).

31. A.B.Hendrich, O. Wesołowska, M.Komorowska, N. Motohashi, **K. Michalak**. The alterations of lipid bilayer fluidity induced by newly synthesized phenothiazine derivative. Biophys. Chem. 98, 275-285, (2002).

32. O.Wesołowska, J. Molnar, N. Motohashi, **K.Michalak**. Inhibition of P-glycoprotein transport function by N-acylphenothiazines. Anticancer Res. 22(5), 2863 - 2868, (2002)

33. A. Teisseyre, K. Michalak, M. Kuliszkiewicz-Janus: The influence of membrane lipid metabolites on lymphocyte potassium channel activity. Cell. Mol. Biol. Letters 7 (4), 1095-1109, (2002)

34. A.B. Hendrich, K. Lichacz, A. Burek, **K. Michalak**. Thioridazine induces erythrocyte stomatocytosis due to interactions with charged lipids. Cell. Mol. Biol. Letters 7 (4), 1081-1086 (2002)

35. Baele, M., L.A. Devriese, **P. Butaye**, and F. Haesebrouck. 2002. Composition of enterococcal and streptococcal flora from pigeon intestines. J. Appl. Microbiol., 92:348-351.

36. Butaye, P., M. Baele, L.A. Devriese, and F. Haesebrouck. 2002. Comparison of Susceptibility to Antimicrobials of the Enterococcal Species isolated from Pigeons (Columba livia). Microb. Drug Resist. 8:215-218.

37. Kerboeuf D, Guégnard F, Le Vern. Analysis and partial reversal of multidrug resistance to anthelmintics due to P-glycoprotein in *Haemonchus contortus* eggs using *Lens culinaris* lectin. 2002 Parasitol. Res. 88, 816-821.

38. Gavín, R., A.A. Rabaan, S. Merino, **J.M. Tomás**, I. Gryllos and J.G.Shaw Lateral flagella of Aeromonas species are essential for epitelial cell adherence and biofilm formation MOLECULAR MICROBIOLOGY 2002; (in press)

39. Stafford, K.A., Hunt, L.P., Ravenscroft, J.C. and **Coles, G.C**. Widespread insecticide resistance in head lice to the over-the-counter pediculocides in England and emergence of carbaryl resistance. 2002 Br. J. Dermatol. 146, 88-93.

40. Earle, C.G., Kington, H.A. and **Coles, G.C**. Helminth control used by Thoroughbred trainers in England. 2002 Vet. Rec. 150, 405-408.

41. Van Wyk, J.A., **Coles, G.C.** and Krecek, R.C. Can we slow the development of anthelmintic resistance? An electronic debate. 2002 Trends Parasitol. 18,336-337.

42. Coles, G.C. Sustainable use of anthelmintics in grazing animals. 2002 Vet. Rec. 151, 165-169.

43. Coles, G.C. Cattle nematodes resistant to anthelmintics: why so few cases? 2002 Vet. Res. 33, 481-489.

44. Liang, Y-S., **Coles, G.C**, Dai, J-R., Zhu, Y-C. and Doenhoff, M.J. Adult worm tegumental damage and egg granulomas in praziquantel-resistant and -susceptible Schistosoma mansoni. 2002. J. Helminthol. 76, 327-333.

45. Hilgeroth A., **Molnar J**., De Clercq E. Using Molecular Symmetry to Form New Drugs: Hydroxymethyl-substituted 3,9-Diazatetraasteranes as the First Class of Symmetric MDR Modulators. (2002),Angew. Chem. Int. Ed., *41*, 3623-3625.

46. Brachwitz K., Voigt B., **Molnar J**., Meijer L., Hilgeroth A.: Bifunctional Cytostatics: 1-Aza-9-oxafluorenes as Novel CDK-Inhibitors with P-GP Modulating Properties Arch. Pharm. Pharm. Med. Chem., *335*, Suppl. 1, 75. (2002)

47. von Samson-Himmelstjerna G, Pape M, von Witzendorff C, Schnieder T. Allele-specific PCR for the beta-tubulin codon 200 TTC/TAC polymorphism using single adult and larval small strongyle (Cyathostominae) stages. 2002 J. Parasitol. 88, 254-7.

48. Harder A, **von Samson-Himmelstjerna G.** Cyclooctadepsipeptides - a new class of anthelmintically active compounds. 2002 Parasitol. Res. 88, 481-8.

49. von Samson-Himmelstjerna G, von Witzendorff C, Sievers G, Schnieder T. Comparative use of faecal egg count reduction test, egg hatch assay and beta-tubulin codon 200 genotyping in small strongyles (cyathostominae) before and after benzimidazole treatment. 2002 Vet. Parasitol. 108, 229-237.

50. Pape M, Schnieder T, **von Samson-Himmelstjerna G**. Investigation of diversity and isotypes of the beta-tubulin cDNA in several small strongyle (cyathostominae) species. 2002 J. Parasitol. 88, 673-677.

51. A.B. Hendrich, R. Malon, A. Pola, Y. Shirataki, N. Motohashi, **K. MICHALAK**. Differential interaction of Sophora isoflavonoids with lipid bilayers European Journal of Pharmaceutical Sciences, 16(3), 201-208, (2002).

52. A.B.Hendrich, O. Wesolowska, M. Komorowska, N. Motohashi, **K. MICHALAK** The alterations of lipid bilayer fluidity induced by newly synthesized phenothiazine derivative Biophys. Chem. 98, 275-285, (2002).

53. A .Kolaczkowska, **M. KOLACZKOWSKI**, A. Delahodde, A. Goffeau Functional dissection of Pdr1p, a regulator of multidrug resistance in Saccharomyces cerevisiae. Mol.Genet. Genomics 267: 96-106, (2002).

54. COUFAL P, BOSAKOVA Z, TESAROVA E, KAFKOVA B, SUCHANKOVA J & **BARBE J**: Quantification and purity determination of newly synthesized thioacridines by capillary liquid chromatography. *J. Chrom. B*, 2002, **770**, 183-189.

55. A.MROZEK**, J. KAROLAK-WOJCIECHOWSKA**, P. AMIEL and **J. BARBE**. *Crystal and molecular structure of 9- (thio-2-methyl-4-nitrophenyl)acridine*, Acta Cryst. E, 2002, **58**, 1065-1067.

56. FRUZINSKI, **J. KAROLAK-WOJCIECHOWSKA**, S. ALIBERT-FRANCO, C. SANTELLI-ROUVIER, **J. BARBE**. *Crystal structure of 11-cyano-12-(11',12'-epoxy-11'-cyano-9',10'-ethano-9',10'-dihydroanthracene)-9,10-etheno-9,10-dihydroanthracene. C34H20N2O x 0.5 C3H6O* .Z. Krystallogr. NCS, 2001, **216**, 471-473,

57. S. ALIBERT, C. SANTELLI-ROUVIER, B. PRADINES, C. HOUDOIN, D. PARZY, **J. KAROLAK-WOJCIECHOWSKA, J. BARBE**. *Synthesis and effects on chloroquine susceptibility in Plasmodium faliciparum of a series of new dihydroanthracene derivatives*. J. Med., Chem. 2002, **45**, 3195-3209.

58. A. MROZEK, **J. KAROLAK-WOJCIECHOWSKA**, P. AMIEL and **J. BARBE**, Acta B. crystallogr. **E58**, 2002, 1065-67

59. K. MICHALAK, The role of plasma membrane lipids in multidrug resistance and its modulation Hendrich Postepy Biochemii 48(3), 2002, 208-219.

60. O. Wesolowska, **J. Molnar**, N. Motohashi, **K. MICHALAK** Inhibition of P-glycoprotein transport function by N-acylphenothiazines. Anticancer Res. 22(6), 2002 -in press.

61. N. Motohashi, M. Kawase**, J. Molnar**, L. Ferenczy, O. Wesolowska, Andrzej B.Hendrich, M.Bobrowska-Hagerstrand, **H.Hagerstrand, K.MICHALAK** .Antimicrobial Activity of N-Acylphenothiazines and Their Influence on Lipid Model Membranes and Erythrocyte membranes. Arzneim - Forschung/ Drug Res.- in press.

62. A.B.Hendrich, **K. MICHALAK** Lipids as Targets for Drugs Modulating Multidrug Resistance of Cancer Cells - Current Drug Targets -in press

63. A.B.Hendrich, O.Wesolowska, A. Pola, N. Motohashi, **J. Molnar, K.MICHALAK** . Neither lipophilicity nor membrane perturbing potency of phenothiazine maleates correlate with ability to inhibit P-glycoprotein transport activity Mol. Membrane Biol. (MMB) - in press

64. A.Teisseyre, **K. MICHALAK**. The voltage- and time-dependent blocking effect of trifluoperazine on T lympocyte Kv 1.3 channels Biochemical Pharmacology - in press.

65. ABC Proteins: From bacteria to Man Edited by: **I. Barry Holland**, Institut de Genetique e Microbiologie, UMR-CNRS, Paris, France; **Susan P. C. Cole**, Cancer Care Ontario, Queen's University, Ontario, Canada; **Karl Kuchler**, University and Biocenter, Vienna, Austria; **Christopher F. Higgins**, MRC Clinical Sciences Centre, Imperial College, London, UK **0 125 2551 9 October 2002 Hardback**.

66. Miguel Viveiros, Isabel Portugal, Rosário Bettencourt, Thomas C. Victor, Annemarie M. Jordaan, Clara Leandro, Diane Ordway, **Leonard Amaral**. INH Induced Transient High Level Resistance of Mycobacterium tuberculosis**.** Antimicrob Agents Chemother. 46:2804-2810. (2002)

67. Butaye P., M. Baele, L.A. Devriese, and F. Haesebrouck. 2002. Comparison of Susceptibility to Antimicrobials of the Enterococcal Species isolated from Pigeons (Columba livia). Microb. Drug Resist. 8:215-218.

68. Aarestrup F.M., **P. Butaye**, and W. Witte. 2002. Nonhuman reservoirs of Enterococci. In: The enterococci: pathogenesis, molecular biology, and antimicrobial resistance (Eds. Gilmore M.S., D.B. Clewell, P.M. Courvalin, G.M. Dunny, B.E. Murray, L.B. Rice). ASM Press, Washington.

69. Ordway D, Viveiros M, Leandro C, and **Amaral L**. J Infect Chemother. Chlorpromazine has intracellular killing activity against phagocytosed staphylococcus aureus at clinical concentrations J Infect Chemother 8:227-31. (2002)

70. M.J. Paape, P.M. Rautiainen, **E.M.Lilius**, C.E. Malstrom & T.H.Elsasser, Development of anti-bovine TNF-a mAb and ELISA for quantitating TNF-a in milk after intramammary injection of endotoxin. J. Dairy Sci. 85 (2002) 765-773

71. Nikoskelainen S, Lehtinen J, **Lilius E-M**: Bacteriolytic activity of rainbow trout (Oncorhynchus mykiss) complement. Developmental & comparative immunology 26 (2002) 797-804.

72. Lundén, T, **Lilius, E-M**, and Bylund, G., Respiratory burst activity of rainbow trout (Oncorhynchus mykiss) phagocytes is modulated by antimicrobial drugs. Aquaculture 207 (2002) 205-212.

73. Lundén, T, **Lilius E-M**, and Bylund G,. Influence of trimethoprim and sulfadiazine on the immune response of rainbow trout (*Oncorhynchus mykiss*). Veterinary Immunology and Immunopathology 85 (2002) 99-108.

74. A. Lojek, M. Ciz, L. Kubala, J. Nuutila, and **E-M. Lilius**, Chemiluminescence of isolated human leukocytes induced by *Streptococcus mutans* is generated extracellularly in the absence of phagocytosis. In: Bioluminescence and

Chemiluminescence: Progress & Current Applications. (eds. P.E. Stanley & L.J. Kricka). World Scientific Publishing Co., Singapore (2002) 269-272.

75. Kolstø A-B, Lereclus D, Mock M. Genome structure and evolution of the *Becillus cereus* group.In Current Topics in Microbiology and Immunology, Volume on Pathogenicity Islands (PAIs) and the Evolution of Pathogenic Microbes. Ed J Hacker and J Kaper. Springer-Verlag. In press (2002)

76. Dancer SJ, McNair D, Finn P, **Kolstø A-B**. *Bacillus cereus* from contaminated heroin. J Med Microbiol 51:278-281 (2002)

77. Gohar M, Økstad OA, Gilois N, Sanchis V, **Kolstø A-B**, Lereclus D. Two dimension electrophoresis analysis of the extracellular proteome of *Bacillus cereus* reveals the importance of the PlcR regulon. Proteomic**s** 2:784-791 (2002)

78. Misbahi H., Brouant P., Hever A., Molnar A., Wolfard K., Spengler G., Mefetah H., **Molnar J.**, Barbe J.: Benzo[b]-1,8-naphthyridine derivatives: synthesis and reversal activity on multidrug resistance. *Anticancer Res*. **22**, 2097-2102 (2002)

79. Vidal S., Brouant P., Chevalier J., Malléa M., **Barbe J., Pagès J.-M**. Computer simulation of spermine - porine Channel interaction. In vivo, 2002, 16: 111-116.

80. Downs, A.M.R., Doenhoff, M.J., Kusel, J.R., **Coles, G.C.** and Cioli, D. Resistance of Schisotsoma mansoni to praziquantel: is there a problem? 2002 Trans. R. S. Trop. Med. Hyg. 96, 465-469.

81. Takacova, M., P. Sklenar, Y. Gbelska, K. Breunig, and **J. Subik**.. Isolation, heterogical cloning and sequencing of the *RPL28* gene in *Kluyveromyces lactis*. Curr. Genet. **42:**21-26. (2002).

82. Tabbi G, Cassino C, Cavigiolio G, **Colangelo D**, Ghiglia A, **Viano I**, Osella D.
Water stability and cytotoxic activity relationship of a series of ferrocenium derivatives. ESR insights on the radical production during the degradation process.
J Med Chem. 2002 Dec 19;45(26):5786-96.

83. Pagnini U, Florio S, Crispino L, Pagnini G, **Colangelo D**, Rocco D, Pacilio C, Pacilio M, Macaluso M, Giordano A. Direct effect of a gonadotropin-releasing hormone agonist on the growth of canine mammary tumour cells. J Cell Biochem. 2002;85(3):470-81.

84. A.Gsur, S.Madersbacher, G.Haidinger, G.Schatzl, M.Marberger, Ch.Vutuc, **M.Micksche**
Vitamin D receptor gene polymorphism and prostate cancer risk. The Prostate, 51, 30-34, 2002

85. B.Kubista, K.Trieb, H.Blahovec, R.Kotz, **M.Micksche.** Hyperthermia Increases the Susceptibility of Chondro- and Osteosarcoma Cells to Natural Killer Cell-mediated Lysis
Anticancer Res. 22, 789-792, 2002

86. Ch.Jantschitsch, F.Trautinger, G.Klosner, A.Gsur, I.Herbacek, **M.Micksche,** I.Kindas-Mügge
Overexpression of Hsp25 in K1735 murine melanoma cells enhances suscepitibility to natural killer cytotoxicity Cell Stress & Chaperones, 7, 107-117, 2002

87. S.Spiegl-Kreinecker, J.Buchroithner, L.Elbling, E.Steiner, G.Wurm, A.Bodenteich, J.Fischer, **M.Micksche**, W.Berger.Expression and functional activity of the ABC-transporter proteins P-glycoprotein and multidrug-resistance protein 1 in human brain tumor cells and astrocytes Journal of Neuro-Oncology, 57, 27-36, 2002

88. A.Gsur, M.Preyer, G. Haidinger, G. Schatzl, S.Maadersbacher, M.Marbeger, Ch. Vutuc, **M.Micksche.** A Polymorphism in the UDP-Glucuronosyltransferase 2B15 Gene ($D^{85}Y$) Is Not Associated with Prostate Cancer Risk Cancer Epidemiology, Biomarkers & Prevention, 11, 497-498, 2002

89. I.Kindas-Mügge, C.Riedler I.Fröhlich, **M.Micksche**, F.Trautinger. Characterization of Proteins Associated with Heat Shock Protein HSP27 in the Squamous Cell Carcinoma Line A431 Cell Biology International, 26, 109-116, 2002

90. O.Kahana, **M.Micksche**, I.Witz, I.Yron. The focal adhesion kinase ($P125^{FAK}$) is constitutively active in human malignant melanoma. Oncogene, 6, 3969-3977, 2002

91. G.Schatzl, S.Madersbacher, A.Gsur, M.Preyer G.Haidinger, A.Haitel, Ch.Vutuc, **M.Micksche**, M.Marberger. Association of Polymorphisms Within Androgen Receptor, 5 α-Reductase, and PSA Genes With Prostate Volume, Clinical Parameters, and Endocrine Status in Elderly Men The Prostate, 52, 130-138, 2002

92. S.Aldrian, F.Trautinger, I.Fröhlich, W.Berger, **M.Micksche**, I.Kindas Mügge. Overexpression of Hsp27 affects the metastatic phenotype of human melanoma cells in vitro Cell Stress & Chaperones, 7, 177-185, 2002

93. A.Gsur, M Preyer, G.Haidinger, T.Zidek, S.Madersbacher, G.Schatzl, M.Marberger, Ch.Vutuc, **M.Micksche.** Polymorphic CAG repeats in the androgen receptor gene prostate- specific antigen polymorphism and protstate cancer risk Carcinogenesis, 23, 1647-1651, 2002

94. Raidl M. Berger W, Schulte-Hermann R, Kandioler-Eckersberger D, Kappel S, Wrba F, **Micksche M**, Grasl-Kraupp B. Expression of the lung resistance-related protein in human and rat hepaocarcinogenesis. AJP-Gastrointest Liver Physiol, 7, 1117-1124, 2002

95. Izraeli S; Witz I; **Micksche M.** Cancer research--from bench to bed*/-side Isr-Med-Assoc-J, 4, 746-748, 2002

96. Arbyn M, van Oyen H, Lynge E, **Micksche M**, Faivre J. European Council Recommendation on Cancer Screening. BMJ, 323, 396-402, 2002

97. Nesmerak, K, Nemec, I, Sticha, M, **Nemcova, I,** Horka, V.: Structure – property relationships of thioacridines. Electrochemical oxidation as a model of their metabolic degradation**.** Analytical Letters 2002, 35, 1617-1629

98. Nesmerak K., Pospisek M., Zikanova B., **Nemecova I.**, Barbe J., Gabriel J.: Effect of structure on the antibiotic activity of new 9-(ethylthio) acridines. Folia Microbiol. 2002, 47 (2), 118

99. Nemcova, I, Caisova, E, Tomankova, V, Nesmerak, K. The effect of cyclodextrins on the acid-base properties of acridines and porphyrins. Proceedings of 11th International Cyclodextrin Symposium, 2002, Reykjavik, Iceland

2003

1. Butaye, P., L.A. Devriese, and F. Haesebrouck. 2003. Antimicrobial growth promoters used in animal feed: a review of the less well known antibiotics and their effects on Gram-positive bacteria. Clin. Microbiol. Rev., 16:175-188.

2. Pil, A. **P. Butaye,** and H. Imberechts. 2003. *Bacillus anthracis*. Vlaams Diergen. Tijdschr., 72:43-50.

3. Vandekerchove, D., S. Roels, **P. Butaye**, K. Van Den Berge, F. Berlengee, and J. Peeters. 2003. Prevalence of viral hemorrhagic disease (VHD) in wild rabbits (*Oryctolagus cuniculus*) in Flanders, Belgium, in 1999 – 2002. Vlaams Diergen. Tijdschr., 72:137-143.

4. Butaye, P, A. Cloeckaert, and S. Schwarz. 2003. Mobile genes coding for efflux-mediated antimicrobial resistance in Gram-positive and Gram-negative bacteria. Int. J. Antimicrob. Agents, 22:205-210.

5. Vicca, J., T. Stakenborg, D. Maes, **P. Butaye**, J. Peeters, A. de Kruif, and F. Haesebrouck. 2003 Evaluation of virulence of Belgian *M. hyopneumoniae* field isolates. Vet. Microbiol., 97:177-190.

6. Read T, Peterson S, Tourasse N, Økstad OA, Helgason E, **Kolstø A-B**, Fraser C. The complete genome sequence of **Bacillus anthracis** Ames. Natur***e*** 423:81-86 (2003)

7. Risøen,P-A, Rønning P., Hegna, I.K., **Kolstø, A-B**. Characterization of a broad range antimicrobial substance from *Bacillus cereus* (in press)

8. Helgason E, Tourasse N, Meisal R, Caugant DA, **Kolstø A-B**, A multilocus sequence typing scheme for bacteria of the *Bacillus cereus* group. *Appl & Environ Microbi**ol*** (in press)

9. Mitterbauer, R., H. Weindorfer, N. Safer, R. Krska, M. Lemmens, P. Ruckenbauer, **K. Kuchler** and G. Adam (2003). A sensitive yeast bioassay for the mycotoxin zearalenone and other environmental compounds of estrogenic activity. Applied. Environm. Biol. 69: 805-811.

10. Schützer-Mühlbauer, M., B. Willinger, G. Krapf, S. Enzinger, E. Presterl and **K. Kuchler**. (2003). The *Candida albicans* Cdr2p ATP-binding cassette transporter confers resistance to caspofungin. Mol. Microbiol. 48: 225-235

11. Kren, A., Y.M. Mamnun, B. Bauer, C. Schüller, H. Wolfger, C. Gregori, K Hatzixanthis, M. Mollapour, P. Piper and **K. Kuchler** (2003). War1p, a novel transcription factor controlling weak acid stress response in yeast. Mol. Cell Biol**.** 23: 1775-1785

12. Chung, K.-R., M.E. Daub, **K. Kuchler** and C. Schüller (2003). The CRG1 gene required for resistance to the singlet oxygen-generating cercosporin toxin in *Cercospora nicotianae* encodes a putative transcription factor. Biochem. Biophys. Res. Comm**.** 302: 302-310

13. Hatzixanthis, K. M. Mollapour, I. Seymour, B. Bauer, C. Schüller, G. Krapf, **K. Kuchler** and P. Piper (2003). A limited range of lipophilic monocarboxylate compounds induce of the Pdr12 ATP-binding cassette transporter in *Saccharomyces cerevisiae*. Yeast**.** 20: 575-585

14. Bauer, B.E., D. Rossington, M. Mollapour, Y. Mamnun, **K. Kuchler** and Peter Piper (2003). Weak organic acid stress inhibits uptake of aromatic amino acids by yeast, causing strong effects of amino acid auxotrophies on the phenotypes of plasma membrane transporter mutants**.** Eur. J. Biochem**.** 270: 3189-3195

15. Schützer-Mühlbauer, M., B. Willinger, R. Egner, G. Ecker and **K. Kuchler**. (2003). Reversal of antifungal resistance mediated by ABC efflux pumps from *Candida albicans* functionally expressed in yeast. **Int. J. Antimicrobial Agents** 22: 291-300

16. A.B. Hendrich, **K. Michalak**. Lipids as targets for drugs modulating multidrug resistance of cancer cells. Current Drug Targets, 4(1), 23-30 (2003).

17. A.Teisseyre, **K. Michalak**. The voltage- and time-dependent blocking effect of trifluoperazine on T lympocyte Kv 1.3 channels. Biochemical Pharmacology 65, 551-561 (2003).

18. A.B. Hendrich, O.Wesołowska, A. Poła, N. Motohashi, J. Molnar, **K. Michalak**. Neither lipophilicity nor membrane perturbing potency of phenothiazine maleates correlate with ability to inhibit P–glycoprotein transport activity. Molecular. Membrane Biology, 20(1), 53-60, (2003).

19. A.B. Hendrich, O. Wesołowska, N. Motohashi, J. Molnar, **K. Michalak**. New phenothiazine-type multidrug resistance modifiers: anti-MDR activity versus membrane perturbing potency. Biochem. Biophys. Res. Commun. 304, 260-265, (2003).

20. N. Motohashi, M. Kawase, J. Molnar, L. Ferenczy, O. Wesołowska, A. B. Hendrich, M. Bobrowska-Hagerstrand, H. Hagerstrand, K. Michalak. Antimicrobial activity of N-acylphenothiazines and their influence on lipid model membranes and erythrocyte membranes. Arzneim – Forsch./ Drug Res. 53(8), 590-599 (2003).

21. M. Bobrowska-Hägerstrand, A. Wróbel, L. Mrówczyńska, T. Söderström, Y. Shirataki, N. Motohashi, J. Molnár, **K. Michalak**, H. Hägerstrand. Flavonoids as inhibitors of MRP1-like efflux activity in human erythrocytes. A structure-activity relationship study. Oncol. Res., 13(11): 463-469, (2003).

22. M. Kołaczkowski, **K. Michalak,** N. Motohashi. Phenothiazines as potent modulators of yeast multidrug resistance. Int. J. Antimicrob. Agents, 22(3), 279-283, (2003).

23. Kozovska Z., **Subik J**. (2003) Screening for effectors that modify multidrug resistance in yeast. Int. J. Antimicrob. Agents 22, 284-290

24. Hnatova M., Gbelska Y., Obernauerova M., Subikova V., **Subik J**. (2003) Cross-resistance to strobilurin fungicides in mitochondrial and nuclear mutants of *Saccharomyces cerevisiae*. Folia Microbiol. 48, 496-500

25. Sojakova M., Liptajova D., Borovsky M., **Subik J**. (2003) Fluconazole and itraconazole susceptibility of vaginal yeast isolates from Slovakia. Mycopatologia, (in press)

26. Takacova M., Imrichova D., Cernicka J., Gbelska Y., **Subik J**. (2003) KNQ1, a *Kluyveromyces lactis* gene encoding a drug efflux permease required for multidrug resistance. Curr. Genet. DOI 10.1007/s00294-003-0449-5

27. Collins, R.F., R.C. Ford, A. Kitmitto, R.O. Olsen, **T. Tønjum** and J.P. Derrick. Three-dimensional structure of the *Neisseria meningitidis* secretin PilQ determined from negative stain transmission electron microscopy. J. Bacteriol. 185:2611-7, 2003.

28. Davidsen, T., E.A. Rødland, K. Lagesen, E. C. Seeberg, Rognes, T., and **T. Tønjum**. Biased distribution of bacterial DNA uptake sequences. Nucl. Acids Res. (in press)

29. Tønjum, T., Håvarstein, L.S., Koomey, M. and E.C. Seeberg. Transformation and DNA repair: linkage by DNA recombination. Trends Microbiol. (in press)

30. Gallo S., Chevalier J., Mahamoud A., Eyraud A., **Pagès J.-M., Barbe J**. 4-Alkoxy and 4-thioalkoxyquinoline derivatives as chemosensitizers for the chloramphenicol resistant clinical *Enterobacter aerogenes* 27 strain. Int. J. Antimicrob. Agents, 2003, 22: 270-

31. Gayet S., Chollet R., **Molle G., Pagès** J.-M., Chevalier J. Modification of outer membrane protein profile and evidence suggesting an active drug pump in *Enterobacter aerogenes* clinical strains. Antimicrob. Agents Chemother., 47: 1555-1559.

32. Pagès J.-M., Dimarcq J. L., Quenin S., Hetru C. Thanatin activity on multidrug resistant clinical isolates of *Enterobacter aerogenes* and *Klebsiella pneumoniae*. Int. J. Antimicrob. Agents, 2003, 22: 265-269.

33. Mamelli L., Amoros J.P., **Pagès J.-M**., Bolla J.M. A PAbN sensitive Multidrug Efflux pump involved in intrinsic and acquired resistance of *Campylobacter* to macrolides. Int. J. Antimicrob. Agents, 22: 237-241.

34. Malléa M., Mahamoud A., Chevalier J., Alibert-Franco S., Brouant P., Jacques Barbe J., **Pagès J.-M**. Alkylaminoquinolines inhibit bacterial antibiotic efflux pump in multidrug resistant clinical isolates. Biochemical J. 376: 801-805.

35. Poppenberger, B., F. Berthiller, D. Lucyshyn, T. Sieberer, R. Schuhmacher, R. Krska, **K. Kuchler**, J. Glössl, C. Luschnig and G. Adam (2003). Detoxification of the fusarium mycotoxin deoxynivalenol by UDP-glucosyltransferases from *A. thaliana*. J. Biol. Chem. **278**: 47905-47914

36. Reinoso-Martín, C., C. Schüller, M. Schuetzer-Muehlbauer & **K. Kuchler** (2003). The yeast protein kinase C cell integrity pathway mediates tolerance to the antifungal drug caspofungin through activation of Slt2p MAP kinase signaling. Eukaryotic Cell. (in press)

37. Schüller, C., Y. M. Mamnun, M. Mollapour, G. Krapf, P. Piper and **K. Kuchler** (2003). The global weak acid stress response in the yeast *Saccharomyces cerevisiae* requires activation of a dedicated transcriptional regulator. Mol. Biol Cell Published online.

38. Bauer, B. E., Ch. Schüller and **K. Kuchler** (2003). Fungal ABC Proteins in Clinical Drug Resistance & Cellular Detoxification. In "***ABC Proteins: From Bacteria to Man***" (eds. I. B. Holland, S. Coole, K. Kuchler, C. Higgins), Academic Press, Elsevier Science, London

39. Schüller, Ch., B. E. Bauer and **K. Kuchler** (2003) Inventory & Evolution of Fungal ABC Protein Genes. In "***ABC Proteins: From Bacteria to Man***" (eds. I. B. Holland, S. Coole, **K. Kuchler**, C. Higgins), Academic Press, Elsevier Science, London.

40. Ordway D, Hohmann J, Viveiros M, Viveiros A, **Molnar J**, Leandro C* , Arroz MJ, Gracio SMA, and **Amaral L**. Methanol extract of Carpobrotus edulis inhibits the multidrug resistance efflux pump of L5178 human MDR1 gene transfected mouse cell lymphoma cells, enhances killing of *Staphylococcus aureus* phagocytosed by THP-1 human monocyte derived macrophages and promotes the release of modulators of cellular immunity. Phytother Res 17, 512-519. (2003)

41. Hendricks O, Butterworth TS, **Kristiansen JE**: The in-vitro antimicrobial effect of non-antibiotics and putative inhibitors of efflux pumps on Pseudomonas aeruginosa and *Staphylococcus aureus*. International Journal of Antimicrobial Agents. 2003:22(3):262-264.

42. Kaatz GW, Moudgal VV, Seo SM and **Kristiansen JE**: Phenylpiperidine selective serotonin re-uptake inhibitors interfere with multidrug efflux pump activity in Staphylococcus aureus. International Journal of Antimicrobial Agents. 2003:22(3):254-261

43. Wainwright M, **Kristiansen JE**: Quinoline and cyanine dyes-putative anti-MRSA drugs.International Journal of Antimicrobial Agents. 2003:22(5):479-486.

44. Molnár A, **Leonard Amaral** and **Joseph Molnár**. Antiplasmid effect of promethazine in mixed bacterial cultures. *Int J Antimicrobial Agents* 22:217-223. (2003)

45. Kristiansen MK*, Leandro C*, Ordway D*, Martins M*, Viveiros M, Pacheco T, **Kristiansen JE**, and **Amaral L.** Thioridazine Reduces Resistance Of Methicillin Resistant *Staphylococcus aureus* By Inhibiting A Reserpine Sensitive Efflux Pump. *Int J Antimicrobial Agents* . 22:250- 263. (2003)

46. Grácio MA, Grácio ADS, Viveiros M and **Amaral L**. Since phenothiazines alter antibiotic susceptibility of micro-organisms by inhibiting efflux pumps, are these agents useful for evaluating similar pumps in phenothiazine sensitive parasites? *Int J Antimicrob Agents* 2003;22:347-352.

47. Gabriella Spengler, András Miczák, Edit Hajdú, Masami Kawase, **Leonard Amaral**, **Joseph Molnár.** Enhancement of plasmid curing by 9-aminoacridine and two phenothiazines in the presence of proton pump inhibitor 1-(2-benzoxazolyl)-3,3,3-trifluoro-2-propanone. *Int J Antimicrob Agents* 2003;22:223-228.

48. Amaral L, Henderson, PJ., Viveiros, M. Efflux pumps and antibiotic resistance. *Int J Antimicrob Agents* 2003;22:176-177**.**

49. Butaye P., L.A. Devriese, and F. Haesebrouck. 2003. Antimicrobial growth promoters used in animal feed: a review of the less well-known antibiotics and their effects on Gram-positive bacteria. Clin. Microbiol. Rev., 16:175-188.

50. Butaye P, A. Cloeckaert, and S. Schwarz. 2003. Mobile genes coding for efflux-mediated antimicrobial resistance in Gram-positive and Gram-negative bacteria. Int. J. Antimicrob. Agents, 205-210.

51. Hubert, A., **Henderson, P.J.F.** and Marsh, D. (2003) "Lipid-protein interactions in *Escherichia coli* membranes over-expressing the sugar-H+ symporter, GalP. EPR of spin-labelled lipids" Biochim. Biophys. Acta 1611, 243-248.

52. Loewen, S. K. , Yao, S. Y. M. , Slugoski, M. D. , Mohabir, N. N. , Turner, R. J. , Mackey, J. R. , Weiner, J. H., Galagher, M. P. , **Henderson, P. J. F.** , Baldwin, S. A., Cass, C. E. and Young, J. D. (2003) "Transport of physiological nucleosides and anti-viral and anti-neop astic nucleoside drugs by recombinant *Escherichia coli* nucleoside-H+ cotransporter (NupC) produced in Xenopus laevis oocytes" Mol. Memb. Biol. (In press)

53. Morrison, S., Ward, A., Hoyle, C.J. and **Henderson P.J.F.** (2003) "Cloning, expression, purification and properties of a putative multidrug efflux protein from *Helicobacter pylori*" Intern. J. Antimicrobial Agents 22/3, 242-249.

54. Saidijam. M., Psakis, G., Clough,J.L., Meuller, J., Hoyle, C.J. , Suzuki, S., Palmer, S.L., Morrison, S. M., Pos, M.K., Essenberg, R.E. , Maiden, M. C.J., Phillips-Jones, M.E., Abu-bakr, A., Baumberg, S.G., Griffith, J.K., Stark, M.J., John O'Reilly, Rutherford, N.G., Phillips-Jones, M.K. and **Peter JF Henderson.** " Collection and characterisation of bacterial membrane proteins". FEBS Lett. 555, 170-175.

55. Patching, S.P., Brough, A.R., Herbert, R.B., **Henderson, P.J.F.** and Middleton, D.A. (2003) "Substrate affinities for membrane transport proteins determined by 13C CP-MAS NMR". J. Am. Chem. Soc. (in press)

56. Kristiansen JE, Permin H.:The human in the art: Henrik Have's painting for a medical thesis. Dansk Medicin, Historisk Årbog 2002: 64-70.

57. Kaatz G.W., Mougdal VV, Seo, Susan M. and **Kristiansen JE**:Phenothiazines and thioxanthenes inhibit multidrug efflux pump activity in *Staphylococcus aureus*. Antimicrobial Agents and Chemotherapy. 2003:47(2):719-726.

58. M. Oikonen, M Laaksonen, P. Laippala, O. Oksaranta, **E-M. Lilius**, S. Lindgren, A. Rantio-Lehtimäki, A. Anttinen, K. Koski, J-P. Erälinna, Ambient Air Quality and Occurrence of Multiple Sclerosis Relapse. Neuroepidemiology 22 (2003) 95-99.

59. S. Nikoskelainen, A. Ouwehand, G. Bylund, S. Salminen and **E-M. Lilius**, Immune enhancement in rainbow trout (*Oncorhyncus mykiss*) by a probiotic *Lactobacillus rhamnosus*. Fish & Shellfish Immunology 15 (2003) 443-452.

60. Lehtinen J, Virta M, **Lilius EM**. Fluoro-luminometric real-time measurement of bacterial viability and killing. J Microbiol Methods 55 (2003) 173-186.

61. Nikoskelainen S, Bylund G, **Lilius E-M**, Effect of environmental temperature on rainbow trout (*Oncorhyncus mykiss*) immunity. Developmental & comparative Immunology (2003) (in press)

62. Lehtinen J, Nuutila J, **Lilius EM**. Green Fluorescent Protein-Propidium Iodide (GFP-PI) Based Assay for Flow Cytometric Bacterial Viability Measurement.

63. Nagy B., Tiszlavicz L., Eller J., **Molnar J.**, Thurzo L.:Ki-67, cyclin D1, p53 and Bcl-2 expression in advanced head and neck cancer. *In vivo* **17**, 93-96 (2003)

64. Nagy B., Mucsi I. **Molnar J. Varga A**. and Thurzo L.: Chemosensitizing effect of vitamin C in combination with 5-fluorouracil in vitro. *In Vivo* 17, 289- 292, (2003)

65. Motohashi N., Wakabayashi H., Kurihara T., Takada Y., Maruyama S., Sakagami H., Nakashima H., Tani S., Kawase M., Wolfard K., **Molnár J**.: Biological activity of a fruit vegetable, "anastasia red", a species of sweet pepper. *Phytotherapy Res. 17, 348-352* (2003)

66. Sandrine Gallo, Siham Atifi, Abdallah Mahamoud, Christiane Santelli-Rouvier, Krisztina Wolfárt, **Jozsef Molnar, Jacques Barbe**: Synthesis of aza mono, bi and tricyclic compounds. Evaluation of their anti MDR activity. *European J. of Med. Chem 38* 19-26 (2003)

67. Sandrine Alibert, Chistiane Santielli-Rouvier, Madeleine Castaing, Michel Berthelot Gabriella Spengler, **Jozsef Molnar, Jacques Barbe**: Effects of series of dihydroanthracene derivatives on drug efflux in multidrug resistant cancer cells. *European J. of Med. Chem 38* 253-263 (2003)

68. Bhattiproulu Kesava Rao, Noboru Motohashi, Masami Kawase, Gabriella Spengler and **Joseph Molnar**: Multidrug resistance reversal in mouselymphoma cells by indian tea leaves, Indian coffee seeds and chicory. *Oriental Pharm. And Experimental Med*. 3(2), 0-0 (2003)

69. Andrzej B. Hendrich, Olga Wesolowska, Andrzej Pola, Noboru Motohashi, **Joseph Molnar** and **Krystyna Michalak** Neither lipohilicity nor membrane-perturbing potency of phenothiazine maleates correlate with the ability to inhibit P-glycoprotein transport activity . *Mol. Membrane Biology* 20, 53-60 (2003)

70. Thomas Söderström, Yoshiaki Shirataki, Noboru Motohashi, **Joseph Molnár**, Malgorzata Bobrowska-Hägerstrand, Anna Wróbel, Lucyna Mrówczynska, **Krytyna Michalak** and **Henry Hägerstrand**: Flavonoids as Inhibitors of MRP1-Like Efflux Activity in human Erythrocytes. A Structure-Activity Relationship Study *Onc. Res. 13*, 463-469(2003)

71. Diane Ordway, Judith Hohmann, Miguel Viveiro, Antonio Viveriros, **Joseph Molnár**, Clara Leandro, Maria Jorge Arroz, Maria Amelia Gracio and **Leonard Amaral**: Carpobrotus edulis Methanol Extract Inhibits the MDR Efflux Pumps, Enhances Killing of Phagocytosed S. aureus and Promotes Immune Modulation *Phytother. Res*. 17, 512-519 (2003)

72. Biological Activity of Persimmon (Diospyros kaki) Peel Extracts Masami Kawase, Noboru Motohashi, Kazue Satoh, Hiroshi Sakagami, Hideki Nakashima, Satoru Tani, Yoshirataki Shirataki, Teruo Kurihara, Gabriella Spengler, Krisztina Wolfard and **Joseph Molnár**: *Phytother. Res*. 17, 495-500 (2003)

73. Joseph Molnár, Annamária Molnár, Ilona Mucsi, Oliver Pinter, Beatrix Nagy, **Andreas Varga** and Noboru Motohashi: Reversal of Multidrug Resistance in Mouse Lymphoma Cells by Phenothiazines. *In Vivo* 17, 145-150 (2003)

74. Diane Ordway, Miguel Viveiros, Clara Leonardo, Rosário Bettencourt, Josefina Almeida, Marta Martins, **Jette E. Kristiansen, Joseph Molnár** and **Leonard Amaral**: Clinical Concentrations of Thioridazine Kill Intracellular Multidrug-Resistant Mycobacterium tuberculosis. *Antimicrobial Agents and Chemotherapy* Vol. 47, No. 3, 917-922 (2003)

75. Hendrich AB, Wesolowska O, Motohashi N, **Molnar J, Michalak K**. New phenothiazine-type multidrug resistance modifiers: anti-MDR activity versus membrane perturbing potency. *Biochem Biophys Res Commun*. 2003, 304(2):260-5

76. Ugocsai K., **Molnár J., Varga A**., Molnár P., Antus S.: Effect of selected flavonoids and carotenoids on the drug accumulation and apoptosis induction of Colon cancer cells carryng MDR-LRP. *Journal of Tumor Marker Oncology* Vol. 18. No. 3. (2003)

77. M. Kolaczkowski, **K. Michalak** N. Motohashi:Phenothiazines as potent modulators of yeast multidrug resistance. Int. J. Antimicrob. Agents 22(3), 279-283, 2003.

78. A.Teisseyre, **K. Michalak.**:The voltage- and time-dependent blocking effect of trifluoperazine on T lympocyte Kv 1.3 channels . Biochemical Pharmacology 65 (2003) 551-561

79. A.B.Hendrich, **Michalak, K**.:Lipids as Targets for Drugs Modulating Multidrug Resistance of Cancer Cells. Current Drug Targets, 4(1), 2003, 23-30

80. N. Motohashi, M. Kawase, **J. Molnar**, L. Ferenczy, O. Wesolowska, A. B. Hendrich, M. Bobrowska-Hagerstrand, **H. Hagerstrand, K. Michalak**. Antimicrobial Activity of N-Acylphenothiazines and Their Influence on Lipid Model Membranes and Erythrocyte membranes. *Arzneim - Forschung/ Drug R.es*.- in press.

81. O. Wesolowska, **Molnar, J.**, Motohashi, N, **Michalak, K**. Inhibition of P-glycoprotein transport function by N-acylphenothiazines. *Anticancer Res.*-in press

82. K. Michalak, A. Hendrich. The role of plasma membrane lipids in multidrugresistance and its modulation (review in Polish). *Postepy Biochemii* 2002 - in press.

83. N. Motohashi, M. Kawase, **J. Molnar**, L.Ferenczy, O. Wesolowska, A. B. Hendrich, M. Bobrowska-Hagerstrand, **H. Hagerstrand, K. Michalak**. Antimicrobial Activity of N-Acylphenothiazines and Their Influence on Lipid Model Membranes and Erythrocyte membranes. *Arzneim - Forschung/ Drug R.es.* 53(8), 590-599, 2003.

84. Brachwitz K., Voigt B., Meijer L., Lozach O., Schächtele C., **Molnar J., Hilgeroth A**.: Evaluation of The First Cytostatically Active 1-Aza-9-oxafluorenes as Novel Selective CDK1-Inhibitors with P-Glycoprotein Modulating Properties. J. Med. Chem., *46*, 876-879. (2003)

85. Voigt B., **Molnar J**., Meijer L., Schächtele, C., Lozach, O., **Hilgeroth, A**.:CDK-Inhibition Profiles of Novel 1-Aza-9-oxafluorenes. Arch. Pharm. Pharm. Med. Chem., in press.

86. Perego, Paola; Gatti, Laura; Righetti, Sabina C.; Beretta, Giovanni L.; Carenini, Nives; Corna, Elisabetta; Dal Bo, Laura; Tinelli, Stella; **Colangelo, Donato**; Leone, Roberto; Apostoli, Piero; Lombardi, Luciano; Beggiolin, Gino; Piazzoni, Laura; Zunino, Franco. Development of resistance to a trinuclear platinum complex in ovarian carcinoma cells. International Journal of Cancer (2003), 105(5), 617-624.

87. Colangelo, Donato; Ghiglia, Anna Lisa; **Viano, Ilario**; Cavigiolio, Giorgio; Osella, Domenico. Cis-[Pt(Cl)2(pyridine)(5-SO3H-isoquinoline)] complex, a selective inhibitor of telomerase enzyme. BioMetals (2003), 16(4), 553-560.

88. Paolicchi, A.; Sotiropuolou, M.; Perego, P.; Daubeuf, S.; Visvikis, A.; Lorenzini, E.; Franzini, M.; Romiti, N.; Chieli, E.; Leone, R.; Apostoli, P.; **Colangelo, D.**; Zunino, F.; Pompella, A.: -Glutamyl transpeptidase catalyses the extracellular detoxification of cisplatin in a human cell line derived from the proximal convoluted tubule of the kidney. European Journal of Cancer (2003), 39(7), 996-1003.

89. Mahboobi, H.; Viarengo, A.; **Colangelo, D**.; Osella, D. Effect of metal-based anticancer drugs on wild type and metallothionein null cell lines . BioMetals (2003), 16(3), 403-409

90. Materna, Verena; **Lage, Hermann**. Homozygous mutation Arg768Trp in the ABC-transporter encoding geneMRP2/cMOAT/ABCC2 causes Dubin-Johnson syndrome in a Caucasian patient. Journal of Human Genetics (2003), 48(9), 484-486.

91. Lage, Hermann.ABC-transporters: implications on drug resistance from microorganisms to human cancers. International Journal of Antimicrobial Agents (2003), 22(3), 188-199.

92. Sinha, Pranav; Poland, Julia; Kohl, Sandro; Schnoelzer, Martina; Helmbach, Heike; Huetter, Gero; **Lage, Hermann**; Schadendorf, Dirk. Study of the development of chemoresistance in melanoma cell lines using proteome analysis. Electrophoresis (2003), 24(14), 2386-2404.

93. Liedert, Bernd; Materna, Verena; Schadendorf, Dirk; Thomale, Juergen; **Lage, Hermann**. Overexpression of cMOAT (MRP2/ABCC2) is associated with decreased formation of platinum-DNA adducts and decreased G2-arrest in melanoma cells resistant to cisplatin. Journal of Investigative Dermatology (2003), 121(1), 172-176.

94. Nieth, Christiane; Priebsch, Axel; Stege, Alexandra; **Lage, Hermann**. Modulation of the classical multidrug resistance (MDR) phenotype by RNA interference (RNAi). FEBS Letters (2003), 545(2-3), 144-150.

95. Tonnes, Holger; Poland, Julia; Sinha, Pranav; **Lage, Hermann**. Association of genomic imbalances with drug resistance and thermoresistance in human gastric carcinoma cells. International Journal of Cancer (2003), 103(6), 752-758.

96. Rau Beate; Sturm Isrid; **Lage Hermann**; Berger Stefan, Steffen; Wust Peter; Riess Hanno; Schlag Peter M; Dorken Bernd; Daniel Peter T; Schneider Ulrike; Hauptmann Dynamic expression profile of p21WAF1/CIP1 and Ki-67 predicts

survival in rectal carcinoma treated with preoperative radiochemotherapy. Journal of Clinical Oncology (2003 Sep 15), 21(18), 3391-401.

97. Pradines B., Vial H. & Olliaro P. Prophylaxie et traitement du paludisme: problèmes, récents développements et perspectives. *Med. Trop.2003*, 63, 79-98.

98. Millet J., Alibert S., **Barbe J. & Pradines B**. Réversion de la chloroquinorésistance dans la lutte antipaludique. *Med. Trop.2003*, 63, (in press).

99. Pape, M., **Posedi, J.**, Failing, K., Schnieder, T., **Samson-Himmelstjerna, G. von** (2003). Analysis of the codon 200 genotype distribution in a benzimidazole-susceptible and -resistant cyathostome population. Parasitol. 127, 53-59.

100. Samson-Himmelstjerna, G. von, Harder, A., Pape, M, Failing, K., Schnieder, T. (2003). Analysis of codon usage bias in ß-tubulin sequences of helminths. Parasitol. Res. 90, 294-300.

101. Chandrawathani P, Waller PJ, Adnan M, **Hoglund J**. (2003) Evolution of high-level, multiple anthelmintic resistance on a sheep farm in Malaysia. Trop Anim Health Prod. 35, 17-25.

102. Liang YS, Dai JR, Zhu YC, **Coles GC**, Doenhoff MJ. (2003) Genetic analysis of praziquantel resistance in Schistosoma mansoni. Southeast Asian J Trop Med Public Health. 34, 274-280.

103. Kenworthy JD, Ye P, Wu GC, Yu H, Shi YJ, Li H, **Coles GC**. Field evaluation of a test for praziquantel resistance in Schistosoma sp. Vet Parasitol. 113, 83-87.

104. Kerboeuf D., Blackall W., Kaminsky R., **Samson-Himmelstjerna G. von** (2003). P-glycoprotein in helminths: function and perspectives for anthelmintic treatment and reversal of resistance. Antimicrob. Agents 22, 332-346.

105. Königova A., **Varady M**., CorbaJ. (2003). Comparison of in vitro methods and faecal egg count reduction test for the detection of benzimidazole Resistance in Small Strongyles of Horses. Vet. Res. Commun. 27, 281-288.

106. Audebert F., Cassone J., **Kerboeuf D**., Durette-Desset M.C. (2003). Development of Trichostrongylus colubriformis and Trichostrongylus vitrinus, parasites of ruminants in the rabbit and comparison with Trichostrongylus retortaeformis. Parasitol. Res. 90, 57-63.

107. Kerboeuf D., Guégnard F., Le Vern Y. (2003). Detection of P-glycoprotein-mediated multidrug resistance against anthelmintics in Haemonchus contortus using anti-human mdr1 monoclonal antibodies. Parasitol. Res. 91, 79-85.
Riou M., Guégnard F., Le Vern Y., **Kerboeuf D**. (2003). Modulation of the multidrug resistance (MDR) system in the nematode Haemonchus contortus by changing cholesterol content: effects on resistance to anthelmintics. J. Antimicrob. Chem. 52, 180-187.

108. Kozovska, Z., and J. **Subik**.. Screening for effectors that modify multidrug resistance in yeast. Int. J. Antimicrob. Agents **22:**284-290. (2003)

109. Hnatova, M., Y. Gbelska, M. Obernauerova, V. Subikova, and J. **Subik**.. Cross-resistance to strobilurin fungicides in mitochondrial and nuclear mutants of *Saccharomyces cerevisiae*. Folia. Microbiol. **48:**496-500. (2003).

110. Sojakova, M., D. Liptajova, M. Simoncicova, M. Borovsky, and J. **Subik**. Vulvovaginal candidiasis and sensitivity of pathogens to antimycotics. Ceska Gynekol. **68:**24-29. (2003).

111. Perego P, Gatti L, Righetti SC, Beretta GL, Carenini N, Corna E, Dal Bo L, Tinelli S, **Colangelo D,** Leone R, Apostoli P, Lombardi L, Beggiolin G, Piazzoni L, Zunino F.
Development of resistance to a trinuclear platinum complex in ovarian carcinoma cells.
Int J Cancer. 2003 Jul 10;105(5):617-24.

112. **Colangelo D**, Ghiglia AL, **Viano I**, Cavigiolio G, Osella D.

Cis-[Pt(Cl)2(pyridine)(5-SO3H-isoquinoline)] complex, a selective inhibitor of telomerase enzyme. Biometals. 2003 Dec;16(4):553-60.

113. Paolicchi A, Sotiropuolou M, Perego P, Daubeuf S, Visvikis A, Lorenzini E, Franzini M, Romiti N, Chieli E, Leone R, Apostoli P, **Colangelo D,** Zunino F, Pompella A.
gamma-Glutamyl transpeptidase catalyses the extracellular detoxification of cisplatin in a human cell line derived from the proximal convoluted tubule of the kidney.
Eur J Cancer. 2003 May;39(7):996-1003.

114. Mahboobi H, Viarengo A, **Colangelo D**, Osella D. Effect of metal-based anticancer drugs on wild type and metallothionein null cell lines. Biometals. 2003 Sep;16(3):403-9.

110. Arbyn, M.; Van Oyen, H.; Lynge, E.; **Micksche, M**.; Faivre, J., and Jordan, J. European Commission's proposal for a council recommendation on cancer screening. BMJ. 2003 Aug 2; 327(7409):289-90.

111. Kubista B, Trieb K, Herbacek I, **Micksche M.** Effect of granulocyte-macrophage colony-stimulating factor on natural- killer cell mediated cytotoxicity. Int J Biochem Cell Biol, 35, 1056-1060, 2003

112. Gsur A, Zidek T, Schnattinger K, Feik E, Haidinger G, Hollaus P, Mohn-Staudner A, Armbruster C, Madersbacher S, Schatzl G, Trieb K, Vutuc C, **Micksche M**
Association of microsomal epoxide hydrolase polymorphisms and lung cancer risk
BJC, 89, 702 – 706, 2003

113. Pirker Ch., Holzmann K, Spiegl-Kreinecker S, Elbling L, Thallinger Ch, Pehamberger H, **Micksche M**, Berger W. Chromosomal imbalances in primary and metastatic melanomas: over-representation of essential telomerase genes. Melanoma Research, 13, 483-492, 2003

114. Teufelhofer O, Weiss R M, Parzefall W, Schulte-Hermann R, **Micksche M**, Berger W, Elbling L, Promyelocytic HL60 Cells Express NADPH Oxidase and Are Excellent Targets in a Rapid Spectrophotometric Microplate Assay for Extracellular Superoxide. Tox. Scien. 76, 376-383, 2003

115. Spiegel W, Zidek T, Vutuc Ch, Maier M, Isak K, **Micksche M**. Complementary therapies for cancer, more good than harm? Wr. Klin. Wochenschr. 115, 676-677, 2003

116. Aldrian S, Kindas-Mügge I, Trautinger F, Fröhlich I, Gsur A, Herbacek I, Berger W, **Micksche M.** Overexpression of Hsp27 in a human melanoma cell line: regulation of E-cadherin, MUC18/MCAM, and plasminogen activator (PA) system. Cell Stress & Chap. 8, 249-257, 2003

117. Micksche M, Sagaster P.. Internistisch-onkologische Therapie des Nierenzellkarzinoms Int.-onkol. Ther. von Tumoren des Urogenitaltraktes, 82-89, 2003.

118. M. Oikonen, M Laaksonen, P. Laippala, O. Oksaranta, **E-M. Lilius**, S. Lindgren, A. Rantio-Lehtimäki, A. Anttinen, K. Koski, J-P. Erälinna, Ambient Air Quality and Occurrence of Multiple Sclerosis Relapse. Neuroepidemiology 22 (2003) 95-99.

119. S. Nikoskelainen, A. Ouwehand, G. Bylund, S. Salminen and **E-M. Lilius**, Immune enhancement in rainbow trout (Oncorhyncus mykiss) by a probiotic Lactobacillus rhamnosus. Fish & Shellfish Immunology 15 (2003) 443-452.

120. Riikka lhalin, Jari Nuutila, Vuokko Loimaranta, Marianne Lenander, Jorma Tenovuo, **Esa-Matti Lilius,** Susceptibility of Fusobacterium nucleatum to killing by peroxidase-iodide hydrogen peroxide combination in buffer solution and in human whole saliva. Anaerobe 9 (2003) 23-30.

121. Lehtinen J, Virta M, **Lilius EM**. Fluoro-luminometric real-time measurement of bacterial Viability and killing. J Microbiol Methods 55 (2003) 173-186.

2004

1. Vandekerchove D., De Herdt P., Laevens H., **Butaye P**., Meulemans G., Pasmans F. 2004. Significance of interactions between *Escherichia coli* and respiratory pathogens in layer hen flocks suffering from colibacillosis-associated mortality. *Avian Pathology*, 33:298-303.

2. Doublet, B., P. **Butaye**, H. Imberechts, J.-M. Collard, E. Chaslus-Duncla, and A. Cloeckeart. 2004 First human case of *Salmonella enterica* serovar Agona harbouring the variant *Salamonella* genomic island 1-A multidrug resistance gene cluster. Emerg. Infect. Dis., 10:756-758.

3. Doublet, B., **P. Butaye**, H. Imberechts, D. Boyd,M. R. Mulvey, E. Chaslus-Duncla, and A. Cloeckeart. 2004. Salmonella genomic island 1 multidrug resistance gene clusters in *Salmonella enterica* serovar Agona isolated in Belgium in 1992 to 2002. Antimicrob. Agents Chemother. 48:2510-2517.

4. J. Vicca, T. Stakenborg, D. Maes, **P. Butaye**, J. Peeters, A. de Kruif, F. Haesebrouck. 2004. *In vitro* susceptibility of M*yoplasma hyopneumoniae* field isolates. Antimicrob. Agents Chemother.. 48:4470-4472.

5. Sojakacova, M., D. Imrichova, J. Cernicka, Y. Gbelska, and **J. Subik**.. *KNQ1*, a *Kluyveromyces lactis* gene encoding a drug efflux permease. Curr. Genet. **45:**1-8. (2004).

6. Sojakova, M., D. Liptajova, M. Borovsky, and **J. Subik**.. Fluconazole and itraconazole susceptibility of vaginal yeast isolates from Slovakia. Mycopathol. **157:**163-169. (2004).

7. Imrichova, D., M. Takacova, R. Kooistra, Y. Gbelska, and J. **Subik**.. The *Kluyveromyces lactis PDR5* and *RLP28* genes involved in drug resistance originate from chromosome VI. Biologia **59:** 413-417. (2004).

8. Kozovska, Z., I. Hikkel, M. Sidorova, and **J. Subik**.. Yeast strains designed for screening of reversal agents and genetic suppressors of multidrug resistance. Int. J. Antimicrob. Agents. **24:** 386-392. (2004).

9. Tyciakova, S., M. Obernauerova, L. Dokusova, R. A. Kooistra, H. Y. Steensma, P. Sulo, and J. **Subik**. The *klPGS1* gene encoding phosphatidylglycerolphosphate synthase in *Kluyveromyces lactis* is essential and assigned to chromosome I. FEMS Yeast Res. **5:**19-27. (2004).

10. Kozovska, Z., and J. **Subik.** Modulation of multidrug resistance. Biol. Listy (in Slovak) **69:** 161-190 (2004).

11. Ordway D, Costa L, Martins M, Silveira H, **Amaral L**, Arroz MJ, Ventura FA, and Dockrell HM. Increased IL-4 production by CD8 and ãä T cells in health care workers is associated with the subsequent development of active Tuberculosis. J Infect Dis 2004; 190:756-766.

12. Amaral, L. Diagnostico da tuberculose cada vez mais rápido. Medicina e Saude. Fevereiro 2004.

13. Amaral, L. Of Pumps and Microbes. Antibiotics Chemotherapy 2003;7:5.

14. Amaral L, Viveiros M, **Molnar J**. Antimicrobial activity of phenothiazines. In Vivo 2004;18:725-732.

15. Martins M, Bleiss W, Marko A, Ordway D, Viveiros M, Leandro C*, Pacheco T, **Molnar J, Kristiansen JE,** and **Amaral L**. Clinical Concentrations of Thioridazine Enhance the Killing of Intracellular Methicillin-resistant S*taphylococcus aureus*: an *In Vivo*, *Ex Vivo* and Electron
Microscopy Study. In Vivo 2004; 18: 787-794.

16. Millet J., Alibert S., Rogier C., Santelli C., Fusai T., Mosnier J., Baret E., **Barbe J.**, Parzy D. & **Pradines B**. In vitro reversal of chloroquine-resistance in *Plasmodium falciparum* isolates by dihydroethano- and ethenoanthracene derivatives. *Antimicrob. Agents Chemother*. 2004, (in press).

17. M.L. Pascu, A. Staicu,. L. Voicu, S. Truica, B. Carstocea, D. Gazdaru: Spectral properties of methotrexate to be used as photosensiting substance J. Anticancer Research, accepted for publication, 2004.

18. A. Poła, **K. Michalak**, K. Burliga, N. Motohashi, M. Kawase Second derivative spectrophotometric determination of the partition coefficients of newly-synthesized phenothiazines between the phosphatidylcholine phase and water. Eur. J. Pharm. Sci.21, 421-427, (2004)

19. Wesołowska, O. Hendrich, A.B., Motohashi, N., Kawase, M., Dobryszycki, P., Ożyhar, A., **Michalak K.** Presence of anionic phospholipids rules the membrane localization of phenothiazine type multidrug resistance modulator. Biophys. Chem. 109, 399-412, (2004).

20. Teisseyre A, **Michalak K**. The influence of zinc on the modulatory effect of sphingosylphosphorylcholine on Kv1.3 channels in human T lymphocytes. Eur. Biophys. J. 33, 543-548 (2004)

21. Chevalier J., Bredin J., Mahamoud A., Malléa M., Barbe J., **Pagès J.-M**. Inhibitors of antibiotic efflux pump in resistant *Enterobacter aerogenes* and *Klebsiella pneumoniae* strains. Antimicrob. Agents Chemother., 48: 1043-1046 (2004)

22. Pagès J.-M. Porines bactériennes et sensibilité aux antibiotiques: une question de taille et de charge. Médecine-Sciences, 20: 346-351. (2004)

23. Goulhen F., Dé E., **Pagès J**.-M, Bolla J.M. Functional refolding of the *Campylobacter jejuni* MOMP porin by homologous GroEL. Biochemical J., 378: 851-856.(2004).

24. hiolas A., Bornet C., Davin-Regli A., **Pagès J.-M**., C. Bollet. Resistance to imipenem, cefepime and cefpirome associated with mutation in Omp36 osmoporin of *Enterobacter aerogenes*. Biochem. Biophys. Res. Comm., 317: 851-856. (2004).

25. Dedieu L., **Pagès J.-M**, Bolla J.M. Prevalence of the *omp50* gene and use for *Campylobacter* species identification by PCR. J. Clin. Microbiol., 42, 2301-2305. (2004)

26. Pagès J.-M. Role of bacterial porins in antibiotic susceptibility of Gram-negative bacteria. in "Bacterial and Eukaryotic Porins", R. Benz, ed., Wiley-VCH, 41-59. (2004)

27. C. Bornet, N. Saint, L. Fetnaci, M. Dupont, A. Davin-Régli, C. Bollet, **J.-M. Pagès**. Omp35, a new porin from *Enterobacter aerogenes* involved in selective susceptibility to cephalosporins. Antimicrob. Agents Chemother., 48, 2153-2158. (2004).

28. Hasdemir U. O., Chevalier J., Nordmann P., **Pagès J.-M**. Detection and prevalence of active drug efflux mechanism in various multidrug resistant *Klebsiella pneumoniae* strains from Turkey. J. Clin. Microbiol., 42, 2701-2706. (2004).

29. Chollet R., Chevalier J., Bollet C., **Pagès J.-M**., Davin-Regli A. RamA is an alternate activator of the multidrug resistance cascade in *Enterobacter aerogenes*. Antimicrob. Agents Chemother., 48, 2518-2523. (2004).

30. Chollet R., Chevalier J., Bryskier A., **Pagès J.-M**. The AcrAB-TolC pump is involved in macrolide resistance but not in telithromycin efflux in *Enterobacter aerogenes* and *Escherichia coli*. Antimicrob. Agents Chemother., 48, 3621-3624. (2004).

31. Dupont M., Dé E., Chollet R., Chevalier J., **Pagès J.-M**. *Enterobacter aerogenes* OmpX, a cation-selective channel mar- and osmo-regulated. FEBS Lett., 569, 27-30.

32. Davin-Regli A., Chollet R., Bollet C., **Pagès J.-M**. Les multirésistances et leurs mécanismes chez *Enterobacter aerogenes*. Antibiotiques, 6, 202-206. (2004)

33. Bolla J.M., Saint S., Labesse G., **Pagès J.-M**., Dumas C. Crystallization and preliminary crystallographic studies of MOMP (major outer membrane protein) from *Campylobacter jejuni*. Acta Crystallogr. D, 60: 2349-2351. (2004)

34. M. Palotás, A. Palotás, L. G. Puskás, K. Kitajka, M. Pákási, Z. Janka, **J. Molnár**, B. Penke and J. Kálmán: Gene expression profile analysis of the rat cortex following treatment with imipramine and citalopram *International Journal of Neuropsychopharmacology* (In press).

35. G. Spengler, A. Molnar, G. Klausz, Y. Mandi, M. Kawase, N. Motohashi, **J. Molnar**: Inhibitory action of a new proton pump inhibitor, trifluoromethyl ketone derivative, against the motility of clarithromycin-susceptible and-resisitant *Helicobacter pylori. International Journal of Antimicrobial Agents* **23** (2004) In Press).

36. Molnar, K. Wolfart, M. Kawase, N. Motohashi, **J. Molnar**: Effect of Trifluoromethyl Ketone on the Motility of Proton Pump-deleted Mutant of Escherichia coli Strain and its Wild-Type *In Vivo* **18** (2004)

37. A. M. Madureira, M-J. U. Ferreira, N. Gyémánt, K. Ugocsai, J. R. Ascenso, P.M. Abreu, J. Hohmann, **J. Molnar**: Rearranged Jatrophane-Type Diterpenes from Euphorbia Species. Evaluation of their Effects on the Reversal of Multidrug Resistance *Planta Med* **70** (2004).

38. N. Gyémánt, A. Molnar, G. Spengler, Y. Mandi, M. Szabó, **J**. **Molnar**: Bacterial Models for Tumor Development *Acta Microbiologica et Immunologica Hungarica* **51** (2004)

39. J. Molnar, A. Molnar, G. Spengler, Y. Mandi: Infectious Plasmid Resistance and Efflux Pump Mediated Resistance *Acta Microbiologica et Immunologica Hungarica* **51** (2004)

40. G. Spengler, A. Molnar, G. Klausz, Y. Mandi, M. Kawase, N. Motohashi and **J. Molnar**: The antimotility action of a trifluoromethyl ketone on some Gram-negative bacteria
Acta Microbiologica et Immunologica Hungarica **51** (2004)

41. M. Martins, W. Bleiss, A. Marko, D. Ordway, M. Viveiros, C. Leonardo, T. Pacheco, **J. Molnar**, **J. E. Kristiansen, L. Amaral**: Clinical Concentrations of Thioridazine Enhance the Killing if Intracellular Methicillin-resistant Staphyloccocus aureus: an In Vivo, Ex Vivo and Electron Microscopy Study.
In Vivo **18** (2004)

42. L. Amaral, M. Viveiros, **J. Molnar**: Antimicrobial Activity of Phenothiazines
In Vivo **18** (2004)

43. J. Molnar, N. Gyémánt, I. Mucsi, A. Molnar, M. Szabó, T. Körtvélyesi, A. Varga, P. Molnar, Gy. Tóth: Modulation of Multidrug Resistance and Apoptosis of Cancer Cells by Selected Carotenoids. *In Vivo* **18** (2004)

44. O. Pintér, L. Pajor, **J. Molnar**, Á. Márki, Gy. Falkay: The Role of Androgen Receptors in the Dynamic Process of Prostate Cancer: Their Analytical Determination in Biopsy Material *In Vivo* **18** (2004)

45. K. Wolfart, A. Molnar, M. Kawase, N. Motohashi, **J. Molnar**: Effects of Trifluoromethyl Ketones on the Motility of Proteus vulgaris. *Biol. Pharm. Bull*. **27** (2004)

46. N. Motohashi, H. Wakabayashi, T. Kurihara, H. Fukushima, T. Yamada, M. Kawase, Y. Sohara, S. Tani, Y. Shirataki, H. Sakagami, K. Satoh, H. Nakashima, A. Molnar, G. Spengler, N. Gyémánt, K. Ugocsai, **J. Molnar**: Biological activity of Barbados cherry (Acerola fruits, fruit of Malpighia emarginata DC) extracts and fractions. *Phytother. Res*. **18** (2004)

47. I Nagy, Zs. Riedl, Gy. Hajós, A. Messmer, N. Gyémánt, **J. Molnar**: Synthesis of new terazolyldienylphenothiazines as potential multidrug resistance inhibitory compounds *ARKIVOC* (2004)

48. A. Palotás, L.G. Puskás, K. Kitajka, M. Palotás, **J. Molnár**, M. Pákási, Z. Janka, B. Penke, J. Kálmán: The Effect of Citalopram on Gene Expression Profile of Alzheimer Lymphocytes. *Neurochemical Research* **29** (2004)

49. J. Molnár, I. Mucsi, J. Nacsa, A. Hevér, N. Gyémánt, K. Ugocsai, P. Hegyes, ST. Kiessig, D. Gaal, H. Lage, A. Varga: New Silicon Compounds as Resistance Modifiers against Multidrug-resistant Cancer Cells. *Anticancer Research* **24** (2004)

50. J. Hohmann, D. Rédei, I. Máté, P. Forgó, G. Blazsó, G. Falkay, **J. Molnár**, K. Wolfárd, A. Molnár, T. Thalhammer: Chemical and Pharmacological Investigation of Macrocyclic Diterpenoids Isolated from *Euphorbia* Species *CABI Publishing* Poisonous Plants and Related Toxins UK (2004)

51. S. Saponara, M. Kawase, A. Shah, N.Motohashi, **J. Molnar**, K. Ugocsai, G. Sgaragli F. Fusi: 3,5-Dibenzoyl-4-(3-phenoxyphenyl)-1,4-dihydro-2,6-dimethylpyridine (DP7) as a new multidrug resistance reverting agent devoid of effect on vascular smooth muscle contractility *British Journal of Pharmacology* **141** (2004)

52. Nagy B., **Molnár J**., Rovó L., Paczona R., Thúrzó L.: Kis dózisú kemoterápiával kombinált sugárterápiával szerzett eredményeink lokálisan előrehaladott stádiumú fej-nyaki rákban. *Magyar Onkológia* **48/2** (2004)

53. Hohmann J. és **Molnár J**.: Euphorbiaceae diterpének: növényi toxinok vagy terápiás szempontból ígéretes molekulák? *Acta Pharmaceutica Hungarica* **74** (2004)

54. Richter M., Gyemant N., **Molnar J**:, Ferreira MJ.: Comparative effects on intestinal absorption in situ by P-glycoprotein-modifying HIV protease inhibitors
Pharm Res (10):1862-6 (2004)

55. Madureira AM, Molnar A, Abreu PM, **Molnar J**, Ferreira MJ: A new sesquiterpene-coumarin ether and a new abietane diterpene and their effects as inhibitors of P-glycoprotein. *Planta Med.* (2004)

56. Szlavik L, Gyuris A, Minárovits J, Forgo P, **Molnar J**, Hohmann J: Alkaloids from leucojum vernum and antiretroviral activity of Amaryllidaceae alkaloids. *Planta Med.* (2004).

57. Kurihara T, Yamada T, Yamamoto A, Kawase M, Motohashi N, Sakagami H, **Molnar J**: Relationship between electronic structure and cytotoxic activity of dopamine and 3-benzazepine derivatives. *In Vivo* (2004)

58. Palotas A, Puskas LG, Kitajka K, Palotas M, **Molnar J**, Pakasi M, Janka Z, Penke B, Kalamn J: Altered response to mirtazapine on gene expression profile of lymphocytes from Alzheimer's patients. Eur J Pharmacol (2004)

59. Madureira AM, Spengler G, Molnar A, Varga A, **Molnar J**, Abreu PM, Ferreira MJ: Effects of cycloartanes on reversal of multidrug resistance and apoptosis induction on mouse lymphoma cells. *Anticancer Research* 24 (2004)

60. Valente C, Ferreira MJ, Abreu PM, Gyemant N, Ugocsai K, Hohmann J, **Molnar J:** Pubescenes, jatrophane diterpenes, from Euphorbia pubescens, with multidrug resistance reversing activity on mouse lymphoma cells *Planta Med* 70 (2004)

61. Colangelo D, Ghiglia A, Ghezzi A, Ravera M, Rosenberg E, Spada F, Osella D.
Water-soluble benzoheterocycle triosmium clusters as potential inhibitors of telomerase

62. Gatti L, Chen D, Beretta GL, Rustici G, Carenini N, Corna E, **Colangelo D**, Zunino F, Bahler J, Perego P. Global gene expression of fission yeast in response to cisplatin.
Cell Mol Life Sci. 2004 Sep;61(17):2253-63.

63. Colangelo D, Mahboobi H, Viarengo A, Osella D.
Protective effect of metallothioneins against oxidative stress evaluated on wild type and MT-null cell lines by means of flow cytometry. Biometals. 2004 Aug;17(4):365-70.

64. Beretta GL, Gatti L, Tinelli S, Corna E, **Colangelo D**, Zunino F, Perego P.
Cellular pharmacology of cisplatin in relation to the expression of human copper transporter CTR1 in different pairs of cisplatin-sensitive and -resistant cells.
Biochem Pharmacol. 2004 Jul 15;68(2):283-91.

65. Ravera M, Baracco S, Cassino C, **Colangelo D**, Bagni G, Sava G, Osella D.

Electrochemical measurements confirm the preferential bonding of the antimetastatic complex [ImH][RuCl(4)(DMSO)(Im)] (NAMI-A) with proteins and the weak interaction with nucleobases. J Inorg Biochem. 2004 Jun;98(6):984-90.

66. Colangelo D, Ghiglia A, Viano I, Mahboobi H, Ghezzi A, Cassino C, Osella D.
Might telomerase enzyme be a possible target for trans-Pt(II) complexes?
J Inorg Biochem. 2004 Jan;98(1):61-7.

67. M. Regué, B. Hita, N. Piqué, L. Izquierdo, S. Merino, S. Fresno, V. J. Benedí **and J. M. Tomás** A gene (uridinediphosphate galacturonate 4-epimerase) is essential for *Klebsiella pneumoniae* virulence. Infection and Immunity 72: 54-61. (2004).

68. H. Sahly, H. Aucken, V. J. Benedi, C. Forestier, V. Fussing, D. S. Hansen, I. Ofek, R. Podschun, D. Sirot, J. M. **Tomás, U**. Ullmann. . Impairment of respiratory burst in polymorphonuclear leukocytes by extended-spectrum beta-lactamase-producing strains of *Klebsiella pneumoniae*. European Journal of Clinical Microbiology & Infectious Diseases 23(1): 20-26 (2004).

69. N. Coderch,, N Piqué, O. Holst, S. Merino, L. Izquierdo, N. Jimenez, **J.M. Tomás** and M. Regué. *Serratia marcescens* N28b (serovar O4) core lipopolysaccharide: structural and genetic characterization. Journal of Bacteriology 186: 978-988 (2004).

70. Y.A. Knirel, E. Vinogradov, N. Jimenez, S. Merino and **J. M. To**más. Structural studies on the R-type lipopolysaccharide of *Aeromonas hydrophila*. Carbohydrate Research 339: 787-793 (2004).

71. H.B. Yu, P.S. Srinivasa Rao, H.C. Lee, S. Vilches, S. Merino, **J.M. Tomás**, and K.Y. Leung. A Type III secretion system is required for *Aeromonas hydrophila* AH-1 pathogenesis. Infection and Immunity 72: 1248-1256 (2004)

72. H. Sahly, H. Aucken, V. J. Benedi, C. Forestier, V. Fussing, D. S. Hansen, I. Ofek, R. Podschun, D. Sirot, **J. M. Tomás**, D. Sandvag, U. Ullmann . Increased serum resistance in *Klebsiella pneumoniae* strains producing extended spectrum â-lactamases. Antimicrobial Agents and Chemotherapy 48: 3477-3482. (2004).

73. C. Esteve, E. Alcalde, R. Canals, S. Merino, D. Blasco, M. J. Figueras, and **J. M. Tomás**. *Aeromonas hydrophila* pathogenic strains with an S-layer from serogroups O:14 and O:81. Applied and Environmental Microbiology 70: 5898-5904. (2004)

74. S. Vilches, C. Urgell, S. Merino, M. R. Chacón, L. Soler, G. Castro-Escarpulli, M. J. Figueras, and **J.M. Tomás** The complete type III secretion system of a mesophilic *Aeromonas hydrophila*. Applied and Environmental Microbiology70: 6914-6919 (2004).

75. Raidl M, Pirker C, Schlute-Hermann R, Aubele M, Kandioler-Eckersberger D, Wrba F, **Micksche M**, Berger W, Grasl-Kraupp B. Multiple chromosomal abnormalities in human liver (pre)neoplasia . J. of Hepatol. 40, 660-668, 2004

76. Steiner E, Holzmann K, Pirker C, Elbling L, **Micksche M,** and Berger W
SP-transcription factors are involved in basal MVP promoter activity and its stimulation by HDAC inhibitors. Biochem Biophys Res Commun. 23; 317, 235-43, 2004

77. Heffeter, P., Pongratz, M., Steiner, E., Chiba, P., Jakupec, M.A., Elbling, L., Marian, B., Korner, W., Sevelda, F., **Micksche, M.,** Keppler, B.K., Berger, W.. Intrinsic and Acquired Forms of Resistance Against the Anticancer Ruthenium Compound KP1019 (FFC14A). J Pharmacol Exp Ther. 2004.

78. Pirker, C., Raidl, M., Steiner, E., Elbling, L., Holzmann, K., Spiegl-Kreinecker, S., Aubele, M., Grasl-Kraupp, B., Marosi, C., **Micksche, M.,** and Berger, W. Whole genome amplification for CGH analysis: Linker-adapter PCR as the method of choice for difficult and limited samples. Cytometry. 61A, 26-34, 2004

79. Davidsen, T., E.A. Rødland, K. Lagesen, E. C. Seeberg, Rognes, T., and **T. Tønjum.** Biased distribution of bacterial DNA uptake sequences. Nucl. Acids Res. 32:1050-1058, 2004

80. Tønjum, T., Håvarstein, L.S., Koomey, M. and E.C. Seeberg.. Transformation and DNA repair: linkage by DNA recombination. Trends. Microbiol. 12:1-4, 2004

81. Collins, R.F., S. A. Frye, A. Kitmitto, R. C. Ford, T. Tønjum and J. P. Derrick. Structure of the Neisseria meningitidis outer membrane PilQ secretin complex at 12 Å resolution. J. Biol. Chem. 279:39750-6, 2004.

82. 33. Nikoskelainen S, Bylund G, Lilius E-M, Effect of environmental temperature on rainbow trout (Oncorhyncus mykiss) immunity. Developmental & comparative Immunology 28 (2004) 581-592.

83. Lehtinen J, Nuutila J, **Lilius EM**. Green Fluorescent Protein-Propidium Iodide (GFP-PI) Based Assay for Flow Cytometric Bacterial Viability Measurement. Cytometry 60A (2004). 165-172.
84. Vaisanen M, **Lilius EM**, Mustonen L, Raekallio M, Kuusela E, Koivisto M, Vainio, O. Effects of ovariohysterectomy on canine blood neutrophil respiratory burst: a chemiluminescence study. Vet. Surg. 33 (2004) 551-6.

85. Nikoskelainen S, Ouwehand AC, Salminen S, Bylund G, **Lilius E-M**. Trout healt gets a boost from probiotic Lactobacillus. Feed Mix 12 (2004)18-21.

2005

1. Hendricks O., A. Molnar, T.S. Butterworth, **P. Butaye**, H.J. Kolmos, J.B. Christensen, and **J.E. Kristiansen.** 2005. In vitro Activity of Phenothiazine Derivatives in Enterococcus faecalis and Enterococcus faecium. Basic Clin. Pharmacol. Toxicol. 96:33-6.

2. Boucheron S., C.-H. Chiu, **P. Butaye**, E. Chaslus-Duncle, and A. Cloeckeart. 2005 High-Level resistance to fluoroquinolones linked to mutations in *gyrA, parC,* and *par* in *Salmonella enterica* serovar Scharzengrund isolates from humans in Taiwan. Antimicrob. Agents Chemother., 49:862-863.

3. Stakenborg, T., J. Vicca, **P. Butaye**, H. Imberechts , J. Peeters, A. de Kruif , F. Haesebrouck , and D. Maes D**.** A multiplex PCR to identify porcine mycoplasmas present in broth cultures. Veterinary Research Communications, accepted.

4. De Leener E., A. Martel, E.M. De Graef, J. Top, **P. Butaye**, F. Haesebrouck, R. Willems, and A. Decostere. Molecular analysis of human, porcine and poultry *Enterococcus faecium* isolates and their *erm*(B) genes. Appl. Environ. Microbiol. Accepted.

5. Butaye, P., L.A., Devriese, and F. Haesebrouck. Effect of avilamycine fed to chickens on *E. faecium* counts and on the selection of avilamycin-resistant *E. faecium* populations. Microbial Drug Resistance, accepted.

6. Stakenborg T., J. Vicca, **P. Butaye**, D. Maes, F. C. Minion, J. Peeters, A. de Kruif, F. Haesebrouck. Characterization of in vivo acquired resistance of Mycoplasma hyopneumoniae to macrolides and lincosamides. Microbial Drug Resistance, accepted.

7. Vandekerchove D., F. Vandemaele, C. Adriaensen, M. Zaleska, J.-P. Hernalsteens, L. De Baets, **P. Butaye**, F. Van Immerseel, P. Wattiau, J. Mast, B. Goddeeris, and F. Pasman. Virulence-associated traits in avian *Escherichia coli*: comparison between isolates from colibacillosis-affected and clinically healthy layer flocks. Vet. Microbiol., accepted.

8. Ghisalberti D., Masi M., **Pagès J.-M**., Chevalier J. Chloramphenicol and expression of multidrug efflux pump in *Enterobacter aerogenes*. Biochem. Biophys. Res. Comm.328: 1113-1118. (2005)

9. Vidal S., Bredin J., **Pagès J.-M**., Barbe J. ß-lactam screening by specific residues of the OmpF eyelet. J. Med.Chem, in press.

10. Thiolas A., Bollet C., La Scola B., Raoult D., **Pagès J.-M**. Successive adaptative resistance of *Enterobacter aerogenes* to imipenem and colistin in a patient. Antimicrob. Agents Chemother. in press.

11. Masi M., **Pagès J.-M.,**Villard C., Pradel E.. The eefABC multidrug efflux pump operon is repressed by H-NS in *Enterobacter aerogenes*. J. Bacteriol. accepted.

12. Bredin J., Davin-Regli A., **Pagès J.-M**. Propyl paraben induces a potassium efflux in Escherichia coli. J. Antimicrob. Chemother. accepted.

13. Łania-Pietrzak B., Hendrich, A.B., Żugaj, J., **Michalak, K**. Metabolic O-demethylation does not alter the influence of isoflavones on the biophysical properties of membranes and MRP1-like protein transport activity. Arch. Biochem. Biophys. 433, 428-434 (2005)

14. Wesołowska, O., Paprocka, M., Koźlak J., Motohashi, N., Duś, D. **Michalak, K**. Human sarcoma cell lines MES-SA and MES-SA/Dx5 as a model for multidrug resistance modulators screening. Anticancer Research (2005) – in press.

15. Sidorowicz A., Mora Cz., Jabłonka S., Poła, A., Modrzycka T., Mosiądz D., **Michalak** K. Spectra properties of two betaine-type cyanine dyes in surfactant micelles and in the presence of phospholipids. J. Mol. Structure (2005) - in press.

16. Imrichova, D., M. Sarinova, J. Cernicka, Y. Gbelska, **and J. Subik**.. *YAP1* mediated *KNQ1* expression in *Kluyveromyces lactis*. FEMSYeast Res. **5**: 323-329. (2005).

17. Martins M, Ordway D, **Kristiansen M**, Viveiros M, Leandro C, **Molnar J** and **Amaral L.** Methanol extract of Carpobrotus edulis inhibits the growth of phagocytosed multi-drug resistant Mycobacterium tuberculosis and methicillin resistant Staphylococcus aureus. Fitoterapia 2005; 76:96-99.

18. Diane Ordway, Luisa Pinto, Leonor Costa, Marta Martins, Clara Leandro, Miguel Viveiros**, Leonard Amaral**, Maria J Arroz, Fernando Ventura, Hazel M Dockrell. Gamma delta T cell responses associated with the development of Tuberculosis in health care workers. FEMS Immunol & Med Microbiol 2005; 43:339-351.

19. Wainwright M and **Amaral L.** Antimalarials produced by photoactivation of phenothiazines. International Health and Tropical Medicine 2005 In Press.

20. Collins, R.F., S. A. Frye, S. Balasingham, R. C. Ford, **T. Tønjum** and J. P. Derrick. Dynamics and interaction of the bacterial outer membrane protein PilQ and type IV pili. J. Biol. Chem. (pending revision).

21. Davidsen T, Bjørås M, Seeberg EC, **Tønjum T**. Antimutator phenotype of the meningococcal DNA glycosylase MutY. J. Bacteriol. 187: 2005 (in press).

22. Derek Sharples, Gabriella Spengler, **Joseph Molnár**, Zsuzsanna Antal, Annamária Molnár, János T. Kiss, József A. Szabó, Andreas Hilgeroth, Sandrine Gallo, Abdallah Mahamoud, **Jacques Barbe**. The interaction between resistance modifiers such as pyrido[3,2-g]quinoline, aza-oxafluorene and pregnane derivatives with DNA, plasmid DNA and tRNA European J Med Chem (2005) 40 pp 195-2002.