Prof. Dr. Dietrich Keppler

Department: Tumor Biochemistry

CV:

DIETRICH KEPPLER

Emer. Ord. Prof. Dr. med.

Personal

Date of birth: April 11, 1940

Place of birth: Stuttgart, Germany

Academic Education and Appointments

1959 – 1966
Medical Schools of Ludwig-Maximilians-University Munich and Albert-Ludwigs-University of Freiburg im Breisgau

- Doctoral thesis on human skeletal muscle metabolism
- Internship at Freiburg University Hospitals

1966 – 1971
Department of Biochemistry, Faculty of Medicine, University of Freiburg, Research Associate with Karl Decker

1971
Habilitation in Biochemistry, University of Freiburg

1972 – 1973
Department of Chemistry, Florida State University, Tallahassee, FL, USA, (Research Fellowship from the German Research Foundation (DFG))

1973 – 1987
Senior lecturer, since 1975 Associated Professor of Biochemistry, Department of Biochemistry, Faculty of Medicine, University of Freiburg

1986
Full professorship offers from Hannover Medical School and University of Heidelberg

1987 – 2005
Professor of Tumor Biochemistry, Faculty of Medicine, University of Heidelberg

1987 – 2007
Head, Division of Tumor Biochemistry, German Cancer Research Center (DKFZ) in Heidelberg

2007 – 2013
Member of the International Consortium of Membrane Transporters (ITC)

2007 – 2014
German Cancer Research Center (DKFZ):

- Establishment and Steering Committee member of the Strategic Alliance between Bayer HealthCare and DKFZ (2007 – 2014)
- Chairman of the Alumni Organization of the DKFZ (2010 – 2012)
- Bioregion Rhein-Neckar, Board of Trustees, member for DKFZ (2009 – 2013)

Publications

(This is not a complete list of publications, but only a selection of the major ones.)

KEPPLER, D., LESCH, R., REUTTER, W., and DECKER, K., Experimental Hepatitis Induced by D-Galactosamine. *Exptl. Mol. Pathol.* 9: 279-290 (1968).

KEPPLER, D., PAUSCH, J., and DECKER, K., Selective Uridine Triphosphate Deficiency Induced by D-Galactosamine in Liver and Reversed by Pyrimidine Nucleotide Precursors: Effect on Ribonucleic Acid Synthesis. *J. Biol. Chem.* 249: 211-216 (1974).

DECKER, K. and KEPPLER, D., Galactosamine Hepatitis: Key Role of the Nucleotide Deficiency Period in the Pathogenesis of Cell Injury and Cell Death. *Rev. Physiol. Biochem. Pharmacol.* 71: 77-106 (1974).

Ishikawa, T., Müller, M., Klünemann, C., Schaub, T., and Keppler, D., ATP-Dependent Primary Active Transport of Cysteinyl Leukotrienes Across Liver Canalicular Membrane. Role of the ATP-Dependent Transport System for Glutathione S-Conjugates. *J. Biol. Chem.* 265: 19279-19286 (1990).

KEPPLER, D., Leukotrienes: Biosynthesis, Transport, Inactivation, and Analysis. *Rev. Physiol. Biochem. Pharmacol.* 121: 1-30 (1992).

JEDLITSCHKY, G., LEIER, I., BUCHHOLZ, U., CENTER, M., and KEPPLER, D., ATP-Dependent Transport of Glutathione *S*-Conjugates by the Multidrug Resistance-Associated Protein. *Cancer Res.* 54: 4833-4836 (1994).

LEIER, I., JEDLITSCHKY, G., BUCHHOLZ, U., COLE, S. P. C., DEELEY, R. G., and KEPPLER, D., The *MRP* Gene Encodes an ATP-Dependent Export Pump for Leukotriene C_4 and Structurally Related Conjugates. *J. Biol. Chem.*269: 27807-27810 (1994).

GUHLMANN, A., KRAUSS, K., OBERDORFER, F., SIEGEL, T., SCHEUBER, P. H., MÜLLER, J., CSUK-GLÄNZER, B., ZIEGLER, S., OSTERTAG, H., and KEPPLER, D., Noninvasive Assessment of Hepatobiliary and Renal Elimination of Cysteinyl Leukotrienes by Positron Emission Tomography. *Hepatology* 21: 1568-1575 (1995).

KARTENBECK, J., LEUSCHNER, U., MAYER, R., and KEPPLER, D., Absence of the Canalicular Isoform of the *MRP* Gene-encoded Conjugate Export Pump from the Hepatocytes in Dubin-Johnson Syndrome. *Hepatology* 23: 1061-1066 (1996).

BÜCHLER, M., KÖNIG, J., BROM, M., KARTENBECK, J., SPRING, H., HORIE, T., and KEPPLER, D., cDNA Cloning of the Hepatocyte Canalicular Isoform of the Multidrug Resistance Protein, cMrp, Reveals a Novel Conjugate Export Pump Deficient in Hyperbilirubinemic Mutant Rats. *J. Biol. Chem.* 271: 15091-15098 (1996).

KEPPLER, D., JEDLITSCHKY, G., and LEIER, I., Transport Function and Substrate Specificity of Multidrug Resistance Protein. *Methods Enzymol.* 292: 607-616 (1998).

KÖNIG, J., ROST, D., CUI, Y., and KEPPLER, D., Characterization of the Human Multidrug Resistance Protein Isoform MRP3 Localized to the Basolateral Hepatocyte Membrane. *Hepatology* 29: 1156-1163 (1999).

CUI, Y., KÖNIG, J., BUCHHOLZ, U., SPRING, H., LEIER, I., and KEPPLER, D., Drug Resistance and ATP-dependent Conjugate Transport Mediated by the Apical Multidrug Resistance Protein, MRP2, Permanently

Expressed in Human and Canine Cells. *Mol. Pharmacol.* 55: 929-937 (1999).

KÖNIG, J., CUI, Y., NIES, A. T., and KEPPLER, D., A Novel Human Organic Anion Transporting Polypeptide Localized to the Basolateral Hepatocyte Membrane. *Am. J. Physiol. Gastrointest. Liver Physiol.* 278: G156-G164 (2000).

KÖNIG, J., CUI, Y., NIES, A. T., and KEPPLER, D., Localization and Genomic Organization of a New Hepatocellular Organic Anion Transporting Polypeptide. *J. Biol. Chem.* 275: 23161-23168 (2000).

CUI, Y., KÖNIG, J., LEIER, I., BUCHHOLZ, U., and KEPPLER, D., Hepatic Uptake of Bilirubin and its Conjugates by the Human Organic Anion Transporter SLC21A6. *J. Biol. Chem.* 276: 9626-9630 (2001).

CUI, Y., KÖNIG, J., and KEPPLER, D., Vectorial Transport by Double-transfected Cells Expressing the Human Uptake Transporter SLC21A8 and the Apical Export Pump ABCC2. *Mol. Pharmacol.* 60: 934-943 (2001).

RIUS, M., NIES, A. T., HUMMEL-EISENBEISS, J., JEDLITSCHKY, G., and KEPPLER, D., Cotransport of Reduced Glutathione with Bile Salts by MRP4 (ABCC4) Localized to the Basolateral Hepatocyte Membrane. *Hepatology* 38: 374-384 (2003).

Giacomini, K. M., Huang, S. M., Tweedie, D. J., Benet, L. Z., Brouwer, K. L., Chu, X., Dahlin, A., Evers, R., Fischer, V., Hillgren, K. M., Hoffmaster, K. A., Ishikawa, T., Keppler, D., Kim, R. B., Lee, C. A., Niemi, M., Polli, J. W., Sugiyama, Y., Swaan, P. W., Ware, J. A., Wright, S. H., Yee, S. W., Zamek-Gliszczynski, M. J., and Zhang, L. Membrane Transporters in Drug Development. *Nature Rev. Drug Discov.* 9: 215-236 (2010).

KEPPLER, D., Progress in the Molecular Characterization of Hepatobiliary Transporters. *Digestive Diseases* 35: 197-203 (2017).

Awards

1971
Award of the Scientific Society of Freiburg University for studies on the mode of action of D-galactosamine

1985
Prix Galien Deutschland (Galenus award) for research on the role of cysteinyl leukotrienes in endotoxin action

1987
Heinrich Wieland Prize for research on metabolism and analysis of leukotrienes

2002
Nagai Foundation Tokyo, Japan, award and Distinguished Lectureship for achievements in medical and pharmaceutical sciences

2004
Lucie Bolte Awardof the German Association for the Study of the Liver (GASL) for achievements in research on liver diseases

2004
Kaufman Distinguished Lectureship, awarded by Queens University, Ontario, Canada, for research on the molecular basis and pathobiologyof transport into and out of the liver

2016
International Adolf Windaus Prizefor outstanding publications in the field of bile acid research