

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Bert Binas		POSITION TITLE Associate Professor	
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
2nd Medical Institute & Institute of Chemical Physics, Moscow, Russia	Diploma	1981	Biophysics & Med. Biology
Central Institute for Molecular Biology, Berlin, East Germany	Ph.D.	1987	Biochemistry
Roslin Institute, Edinburgh, United Kingdom	Post.Doc.	1994	Molecular Biology & Transgenic Mice

NOTE: The Biographical Sketch may not exceed four pages. Follow the formats and instructions on the attached sample.

- A. Positions and Honors.** List in chronological order previous positions, concluding with your present position. List any honors. Include present membership on any Federal Government public advisory committee.

Professional Experience

1975-1981 Undergraduate Thesis with Dr. A.I. Archakov, Institute of Chemical Physics, Moscow, Russia.
Diploma with Summa Cum Laude

1981-1987 Graduate Ph.D. Thesis with Dr. R. Grosse, Central Institute for Molecular Biology, Berlin, Germany. Ph.D. with Magna Cum Laude.

1987-1991 Scientist, Central Institute for Molecular Biology, Berlin, Germany.

1992-1994 Postdoctoral with Drs. A.J. Clark and B. Gusterson, Roslin Institute Edinburgh, Scotland.

1995-2000 Scientist, Max Delbruck Center for Molecular Medicine, Berlin, Germany.

2000 (May/June) Visiting Scholar with Dr. G. Shulman, Yale University School of Medicine.

2000- present Associate Professor, Dept. of Pathobiology, Texas A&M University.

2000- present Member of the Graduate Faculty, Texas A&M University, College Station, TX.

2001- present Member of Intercollegiate Genetics Faculty, Texas A&M University,

2002 (June/July) Visiting Scholar with Dr. O. Smithies, University of North Carolina at Chapel Hill

Honors and Awards

Diploma, Summa Cum Laude; Ph.D., Magna Cum Laude

- B. Selected peer-reviewed publications (in chronological order).** Do not include publications submitted or in preparation.

Davydov DR, Karyakin AV, Binas B, Kurganov BI, Archakov, AI. Kinetics studies on reduction of cytochromes P450 and b5 by dithionite. *Eur. J. Biochem.* 150:155-159, 1985.

Binas B, Grosse R, Eckert K, Widmaier R, Lubbe, L. Secretion of phosphoproteins associated with neoplastic transformation and with the action of transforming growth factors. *Biochem. Internat.* 11:453-465. 1985.

Bielka H, Grosse R, Bohmer F, Junghahn I, Binas B. Inhibition of proliferation of Ehrlich ascites carcinoma cells is functionally correlated with reduced activity of the cytosol to stimulate protein synthesis. *Biomed. Biochem. Acta.* 45: 441-445, 1986.

Binas B, Grosse, R. Demonstration of an epidermal growth factor-dependent 58 kDa-phosphoprotein secreted by rat kidney fibroblasts. *FEBS Lett.* 213:1: 164-168. 1987.

Vogel F, Breter H, Erdmann B, Muller T, Binas B, Grosse, R. Characterization and function dependent localization of mammary-derived growth inhibitor (MDGI) in mammary glands of bovine and mice. *Acta Histochem. Suppl.* 40:77-80,1990.

Erdmann B, Binas B. Application of the immunogold-silver staining method localize a mammary-derived growth inhibitor. *Acta. Histochem.* 90:51-54, 1991.

- Binas B, Spitzer E, Zschiesche W, Erdmann B, Kurtz A, Muller T, Niemann C, Blenau W, Grosse R. Hormonal induction of functional differentiation and mammary-derived growth inhibitor expression in cultured mouse mammary gland explants. *In Vitro Cell. Dev. Biol.* 28A: 625-634.
- Spitzer E, Zschiesche W, Binas B, Grosse R, Erdmann B. EGF and TGF α modulate structural and functional differentiation of the mammary gland from pregnant mice in vitro. *J. Cellular Biochem.* 57:3: 495-508, 1995.
- Li M, Spitzer E, Zschiesche W, Binas B, Parkczyk K, Grosse R. Antiprogesterins inhibit growth and stimulate differentiation in the normal mammary gland. *J. Cellular. Physiol.* 164:1:1-8, 1995.
- Binas B, Gusterson B, Wallace R, Clark AJ. Epithelial proliferation and differentiation in the mammary gland do not correlate with cFABP gene expression during early pregnancy. *Developm. Genetics.* 17:2, 167-175, 1995.
- Stacey A, Schnieke A, Kerr M, Scott A, McKee C, Cottingham I, Binas B, Wilde C, Colman A. Lactation is disrupted by alpha-lactalbumin deficiency and can be restored by human alpha-lactalbumin gene replacement in mice. *Proc. Natl. Acad. Sci. USA* 92: 2835-2839, 1995.
- Gordon KE, Binas B, Wallace R, Clark AJ, Watson, CJ. Derivation of conditionally immortal mammary epithelial cell lines. *Biochem. Soc. Trans.* 24:3: 371 S, 1996.
- Yull F, Binas B, Harold G, Wallace R, Clark AJ. Transgene rescue in the mammary gland is associated with transcription but does not require translation of BLG transgenes. *Transgenic Res.* 6: 11-17, 1997.
- Bleck B, Hohoff C, Binas B, Rustow B, Dixkens C, Hameister H, Borchers T, Spener F. Cloning and chromosomal localisation of the murine epidermal-type fatty acid binding protein gene. *Gene.* 215 (1): 123-130, 1998.
- Binas B. Cytosolic Fatty Acid-binding Proteins: Subjects and Tools in Metabolic Research *Nuklearmedizin Suppl.* 37: 5-7, 1998. (Review)
- Binas B, Danneberg H, McWhir J, Mullins L, Clark AJ. Requirement for the heart type fatty acid-binding protein in cardiac fatty acid utilization. *FASEB J.* 13: 805-812, 1999.
- Schaap FG, Binas B, Danneberg H, van der Vusse G, Glatz JFC. Impaired long-chain fatty acid utilization by cardiac myocytes isolated from mice lacking the heart-type fatty acid-binding protein gene. *Circ. Res.* 85(4): 329-337, 1999.
- Brandt, R, Eisenbrandt R, Leenders F, Zschiesche W, Binas B, Juergensen C, Theuring F. Mammary gland specific hEGF receptor transgene expression induces neoplasia and inhibits differentiation. *Oncogene* 19(17): 2120-2137, 2000.
- Clark AJ, Neil C, Gusterson B, McWhir J, Binas B. Deletion of the gene encoding H-FABP/MDGI has no overt effects in the mammary gland. *Transgenic Res.* 9(6):439-44, 2000
- Gordon KE, Binas B, Chapman RS, Kurian KM, Clarkson RW, Clark AJ, Lane BE, Watson CJ. A novel cell culture model for studying differentiation and apoptosis in the mouse mammary gland. *Breast Cancer Res.* 2(3):222-35, 2000
- Fandrich F, Lin X, Chai GX, Schulze M, Ganten D, Bader M, Holle J, Huang DS, Parwaresch R, Zavazava N, Binas B. Preimplantation-stage stem cells induce long-term allogeneic graft acceptance without supplementary host conditioning. *Nature Med.* 8(2):171-8, 2002
- Martin GG, Danneberg H, Kumar LS, Atshaves BP, Erol E, Bader M, Schroeder F, Binas B. Decreased Liver Fatty Acid Binding Capacity and Altered Liver Lipid Distribution in Mice Lacking the Liver Fatty Acid-binding Protein Gene. *J. Biol. Chem.* 278(24):21429-38, 2003.
- Luiken JJ, Koonen DP, Coumans WA, Pelsers MM, Binas B, Bonen A, Glatz JF. Long-chain fatty acid uptake by skeletal muscle is impaired in homozygous, but not heterozygous, heart-type-FABP null mice. *Lipids.* 38(4):491-6, 2003.
- Binas B, Han XX, Erol E, Luiken JJ, Glatz JF, Dyck DJ, Motazavi R, Adihetty PJ, Hood DA, Bonen A. A null mutation in H-FABP only partially inhibits skeletal muscle fatty acid metabolism. *Am J Physiol Endocrinol Metab.* 285(3):E481-9, 2003.
- Schrauwen P, Hoeks J, Schaart G, Kornips E, Binas B, Van De Vusse GJ, Van Bilsen M, Luiken JJ, Coort SL, Glatz JF, Saris WH, Hesselink MK. Uncoupling protein 3 as a mitochondrial fatty acid anion exporter. *FASEB J.* 17(15):2272-4, 2003.
- Martin GG, Huang H, Atshaves BP, Binas B, Schroeder F. Ablation of the Liver Fatty Acid Binding Protein Gene Decreases Fatty Acyl CoA Binding Capacity and Alters Fatty Acyl CoA Pool Distribution in Mouse Liver. *Biochemistry.* 42(39):11520-32, 2003.
- Erol E, Kumar LS, Cline GW, Shulman GI, Kelly DP, Binas B. Liver fatty acid-binding protein is required for high rates of hepatic fatty acid oxidation but not for the action of PPAR α in fasting mice. *FASEB J.* 18(2):347-9, 2004.

Principal Investigator/Program Director (Last, First, Middle): Binas, Bert

- Guthmann F, Schachtrup C, Tolle A, Wissel H, Binas B, Kondo H, Owada Y, Spener F, Rustow B. Phenotype of palmitic acid transport and of signalling in alveolar type II cells from E/H-FABP double-knockout mice: contribution of caveolin-1 and PPARgamma. *Biochim Biophys Acta* 1636(2-3):196-204, 2004.
- Murphy EJ, Barcelo-Coblijn G, Binas B, Glatz JF. Heart fatty acid uptake is decreased in heart fatty acid-binding protein gene-ablated mice. *J Biol Chem*. 279(33):34481-8, 2004.
- Erol E, Cline GW, Kim JK, Taegtmeier H, Binas B. Non-acute effects of H-FABP deficiency on skeletal muscle glucose uptake in vitro. *Am J Physiol Endocrinol Metab*. 287(5):E977-82, 2004.
- Shearer J, Fueger PT, Rottman JN, Bracy DP, Binas B, Wasserman DH. Heart-Type Fatty Acid Binding Protein Reciprocally Regulates Glucose and Fatty Acid Utilization during Exercise. *Am J Physiol Endocrinol Metab*. 288(2):E292-7, 2005.
- Binas B. Heart and liver fatty acid binding proteins and the metabolic syndrome. *Curr Hypertens Rep*. 7(6):401-6, 2005.
- Binas B, Erol E. FABPs as determinants of myocellular and hepatic fuel metabolism. *Mol Cell Biochem*. 2006 Sep 23; [Epub ahead of print]
- Adhikari S, Erol E, Binas B. Increased glucose oxidation in H-FABP null soleus muscle is associated with defective triacylglycerol accumulation and mobilization, but not with the defect of exogenous fatty acid oxidation. *Mol Cell Biochem*, 296(1-2):59-67, 2007.

C. Research Support. List selected ongoing or completed (during the last three years) research projects (federal and non-federal support). Begin with the projects that are most relevant to the research proposed in this application. Briefly indicate the overall goals of the projects and your role (e.g. PI, Co-Investigator, Consultant) in the research project. Do not list award amounts or percent effort in projects.

CI 3592822 (Binas) 6/1/2004 – 5/31/2006 (ext. till 1/31/2007)

ROTRF

“Mouse embryo stem cell immune resistance”

The major goals of this project are to test the immune privilege and tolerogenicity of murine blastocyst stem cells and to clarify their relationship with immune-privileged rat blastocyst-derived trophoblast-like stem cells.

Role: PI

5R21RR20785-2 (Westhusin) 12/1/2005 – 11/30/2007

NIH

“Production of new models for biomedical research by RNAi”

The major goals of this project are to develop technologies for studying functional genomics in animals representing species other than mice.

Role: Co-Investigator

#0355051Y (Binas) July 2003-June 2005

AHA Texas

“Heart-type FABP in glucose metabolism”.

Major goal of this project was to study the interaction of lipid and glucose metabolism in striated muscles of H-FABP deficient mice.

Role: PI