###  CURRICULUM VITAE

**NAME**: **Michael Steven Kilberg, Ph.D.**

**TITLE**: Professor Emeritus

**CONTACT**: Department of Biochemistry and Molecular Biology

 The University of Florida College of Medicine

Gainesville, Florida 32610-0245

 email: mkilberg@ufl.edu

**EDUCATION**: Post-doctoral Scholar, Department of Biological

 Chemistry, University of Michigan, 1977 to 1979

 Ph.D., 1977 (Biochemistry & Molecular Biology)

 The University of South Dakota, Vermillion

 B.S., 1973 (Chemistry and Biology)

 Morningside College, Sioux City, Iowa

**PROFESSIONAL EXPERIENCE**:

Professor Emeritus, Department of Biochemistry and Molecular Biology, University of Florida College of Medicine, 2022

Professor, Department of Biochemistry and Molecular Biology, University of Florida College of Medicine, 1989 to 2022

Director, Graduate Training Program in Biochemistry and Molecular Biology, University of Florida College of Medicine, 2000 to 2006

Professor and Associate Chairman, Department of Biochemistry and Molecular Biology, University of Florida College of Medicine, 1989 to 1996

Associate Professor and Associate Chairman, Department of Biochemistry and Molecular Biology, University of Florida College of Medicine, 1986 to 1989

Associate Professor, Department of Biochemistry and Molecular Biology, University of Florida College of Medicine, 1985 to 1986

Assistant Professor, Department of Biochemistry and Molecular Biology, University of Florida College of Medicine, 1980 to 1985

Assistant Research Scientist, Department of Biological Chemistry, University of Michigan Medical School, 1979 to 1980

**UNIVERSITY APPOINTMENTS**:

Member, UF Shands Cancer Center

Member, UF Genetics Institute

Member, UF Center for Epigenetics

Member, UF Center for Nutritional Sciences

PROFESSIONAL APPOINTMENTS:

Search Committee, Editor of Journal of Nutrition, American Society for Nutrition, 2012-13

Member, NIH Integrative Nutrition and Metabolic Processes Study Section, 2008-2012

Executive Committee, Nutritional Sciences Council, Member-At-Large for Molecular Nutrition, American Society for Nutrition, 2007-2008

Programmatic Task Force,Nutritional Sciences Council, American Society for Nutrition, 2007-8

Nominating Committee, American Society for Nutrition, 2007

Chair, Nutrient-Gene Interactions, Research Interest Section, American Society for Nutritional Sciences 2005-2006

Steering Committee Member, Nutrient-Gene Interactions, Research Interest Section, American Society for Nutrition 2000-2003

Council of Scientific Advisors, Children’s Nutrition Research Center, Baylor College of Medicine, 1998-2003.

**MEMBERSHIPS**: American Society of Biochemistry and Molecular Biology

 American Society for Nutrition

 American Physiological Society

**SELECTED AWARDS**:

College of Medicine Dissertation Mentoring Award, 2006

The University of Florida Doctoral Mentoring Award, 2006

College of Medicine, Exemplary Teacher Award, 2004-2016, 2021

College of Medicine Faculty Research Prize in Basic Science 1992

University of Florida Research Achievement Award 1986, 1988, 1991, 1992

University of Florida Research Foundation Professorship, Inaugural Year Awardee, 1997

University of Florida Professorial Excellence Program, 1998

Faculty Achievement Recognition Award, Inaugural Year Awardee, 2007

The Arvid Wretlind Lectureship, European Society for Parenteral and Enteral Nutrition, 1996

**EDITORIAL BOARDS**:

Journal of Biological Chemistry (2002-2007; 1997-2001; 1990-1995)

Associate Editor: American Journal of Physiology: Endocrinology and Metabolism (1991-1994)

The American Journal of Physiology: Cell Physiology (1988-1993)

**INVITED and REFEREED REVIEWS:**

21. Tsai, C.Y., Kilberg, M.S., and Husain, S.Z. (2020) The role of asparagine synthetase on nutrient metabolism in pancreatic disease. **Pancreatology**. 20:1029-1034.

20. Chiu, M., Taurino, G., Bianchi, M.G., Kilberg, M.S., and Bussolati. O. (2020) Asparagine Synthetase in Cancer: Beyond Acute Lymphoblastic Leukemia, **Front Oncol** 9:1480.

19. Lomelino, C.L., Andring, J.T., McKenna, R., and Kilberg, M.S. (2017) Asparagine synthetase: Function, structure, and role in disease. **J. Biol. Chem**., 292, 19952-19958.

18. Wortel, I.M.N., van der Meer, L.T., Kilberg, M.S., and van Leeuwen, F.N. (2017) Surviving Stress: Modulation of ATF4-Mediated Stress Responses in Normal and Malignant Cells. **Trends Endocrinol Metab**. 28, 794-806.

17. Kilberg, M.S., Terada, N., and Shan, J. (2016) Influence of Amino Acid Metabolism on Embryonic Stem Cell Function and Differentiation. **Adv. Nutr.** 7, 780S-789S

16. Balasubramanian, M.B., Butterworth, E.A, and Kilberg, M.S. (2013) Asparagine Synthetase: Regulation by Cell Stress and Involvement in Tumor Biology, **Amer. J. Physiol. Endo. Metab.**, 304, E789-E799.

15. Kilberg, M.S., Balasubramanian, M., Fu, L., and Shan, J., (2012) The Transcription Factor Network Associated with the Amino Acid Response in Mammalian Cells. **Adv. Nutr,** 3, 295-306.

14. Kilberg, M.S., Shan, J., and Su, N. (2009) ATF4-Dependent Transcription Mediates Amino Acid Signaling, **Trends Endocrin. Metab.**, 20, 436-443.

13. Richards, N. G.J. and Kilberg, M.S. (2006) Asparagine Synthetase Chemotherapy. **Annu. Rev. Biochem.,** 75, 629 - 654.

12. Kilberg, M.S., Chen, H., Leung-Pineda, V., and Pan, Y.-X. (2005) Nutritional Control of Gene Expression: How Mammalian Cells Respond to Amino Acid Limitation. **Annu. Rev. Nutr.,** 25, 59-85.

11. Barbosa-Tessmann, I., Chen, C., Zhong, C., and Kilberg, M.S. (2002) Genomic Sequences Necessary for Transcriptional Activation by Amino Acid Deprivation of Mammalian Cells, **J. Nutr.**, 132, 1801-1804.

10. Malandro, M.S. and Kilberg, M. S. (1996) Molecular Biology of Mammalian Amino Acid Transporters. **Annu. Rev. Biochem.**, 65, 305-336.

9. Laine, R.O., Hutson, R.G., and Kilberg, M.S. (1996) Eukaryotic Gene Expression: Metabolite Control by Amino Acids. **Prog. Nuc. Acid Res. and Mol. Biol.**, 53, 219-248.

8. Christensen, H.N. and Kilberg, M.S. (1995) Hepatic Amino Acid Transport Primary to the Urea Cycle in Regulation of Biologic Neutrality. **Nutrition Rev**., 53, 74-76.

7. Kilberg, M.S., Hutson, R.G., and Laine, R.O. (1994) Amino Acid-Regulated Gene Expression in Eukaryotic Cells. **FASEB J.** 8, 13-19.

6. Kilberg, M.S., Stevens, B.R., and Novak, D.A. (1993) Recent Advances in Mammalian Amino Acid Transport.  **Annu. Rev. Nutr.** 13, 137-165.

5. Bode, B., Tamarappoo, B.K., Mailliard, M., and Kilberg, M.S. (1990) Characteristics and Regulation of Hepatic Glutamine Transport. **J. Paren. Enteral Nutr.** 14, 51S-55S.

4. Kilberg, M.S. (1986) System A-Mediated Amino Acid Transport: Metabolic Control at the Plasma Membrane. **Trends Biochem. Sci.**, 11, 183-186.

3. Kilberg, M.S., Barber, E.F. and Handlogten, M.E. (1985) Characteristics and Hormonal Regulation of Amino Acid Transport System A in Isolated Rat Hepatocytes. **Curr. Topics Cell. Regul**. 25, 133-163.

2. Shotwell, M.A., Kilberg, M.S. and Oxender, D.L. (1983) The Regulation of Amino Acid Transport. **Biochim. Biophys. Acta, Reviews on Biomembranes**, 737, 267-284.

1. Kilberg, M.S. (1982) Amino Acid Transport in Rat Hepatocytes. **J. Memb. Biol**. 69, l-12.

REFEREED PUBLICATIONS:

145. Staklinski, S.J., Chang, M.C., Ahrens-Nicklas, R.C., Kaur, S., Stefanatos, A.K., Dudenhausen, E.E., Merritt, M.E., and Kilberg, M.S. (2023) Characterizing asparagine synthetase deficiency variants in lymphoblastoid cell lines. **JIMD Reports**, 64:167-179.

144. Staklinski S.J., Snanoudj S., Guerrot A.M., Vanhulle C., Lecoquierre F., Bekri S., and Kilberg M.S. (2022) Analysis of Enzyme Activity and Cellular Function for the N80S

 and S480F Asparagine Synthetase Variants Expressed in a Child with Asparagine Synthetase Deficiency. **Int. J. Mol. Sci.**, 24:559-572.

143. Staklinski, S.J., Chang, M.C., Yu,F., Collins Ruff, K., Franz, D.N., Qian, J., Bloom, L.B., Merritt, M.E., McKenna, R., and Kilberg, M.S. (2022) Cellular and molecular characterization of two novel asparagine synthetase gene mutations linked to Asparagine Synthetase Deficiency. **J. Biol. Chem.**, 298, 102385-102401.

142. Fields, C.J., Li, L., Hiers, N.M., Li, T., Sheng, P., Huda, T., Shan, J., Gay, L., Gu, T., Bian, J., Kilberg, M.S., Renne, R., Xie, M. (2021) Sequencing of Argonaute-bound microRNA/mRNA hybrids reveals regulation of the unfolded protein response by microRNA-320a. **PLoS Genet**., 17, e1009934.

141. Farabaugh, K.T., Krokowski, D., Guan, B-J., Gao, Z., Gao, X-H., Wu, J., Jobava, R., Ray, G., de Jesus, T., Kilberg, M., Buchner, D., Sen, G.C., Cotton, C., McDonald, C., Xin, W., Longworth, M., Ramakrishnan, P., and Hatzoglou, M. (2020) PACT-mediated PKR activation acts as a hyperosmotic stress intensity sensor weakening osmoadaptation and enhancing inflammation. **eLIFE**, 9, E52241.

140. Chiu, M., Toscani, D., Marchica, V., Taurino, G., Costa, F., Bianchi ,M.G., Andreoli, R., Franceschi, V., Storti, P.,, Burroughs-Garcia J., Eufemiese, R.A., Dalla Palma, B.,, Campanini, N., Martella, E., Mancini, C., Shan, J.,Kilberg, M.S., D'Amico, G., Dander, E., Agnelli, L., Pruneri, G., Donofrio, G., Bussolati, O., and Giuliani, N. (2020) Myeloma Cells Deplete Bone Marrow Glutamine and Inhibit Osteoblast Differentiation Limiting Asparagine Availability. **Cancers**, 12, E3267.

139. Mukherjee, A., Ahmed, N., Rose, F., Ahmed, A.N., Javed, T.A., Wen, L., Bottino, R., Xiao, X., Kilberg, M.S., and Husain, S.Z. (2020) Asparagine Synthetase in Highly Expressed at Baseline in the Pancreas Through Heightened PERK Signaling. **Cell Mol. Gastroenterol. Hepatol.**, 9, 1-13.

138. Shan, J., Dudenhausen, E.E., and Kilberg, M.S. (2019) Induction of Early Growth Response Gene 1 (EGR1) by Endoplasmic Reticulum Stress is Mediated by the Extracellular Regulated Kinase (ERK) Arm of the MAPK Pathways. **Biochim. Biophys. Acta Mol. Cell. Res.,** 1866, 371-381.

137. Sacharow, S.J., Dudenhausen, E.E., Lomelino, C.L., Rodan, L., Moufawad El Achkar, C., Olson, H.E., Genetti, C.A., Agrawal, P.B., McKenna, R., and Kilberg, M.S. (2018) Characterization of a Novel Variant in Siblings with Asparagine Synthetase Deficiency. **Mol. Genet. Metab.**, 123, 317-325.

136. Hayner, J., Shan, J., and Kilberg, M.S. (2018) Regulation of the ATF3 gene by a single promoter in response to amino acid availability and endoplasmic reticulum stress in human primary hepatocytes and hepatoma cells. **Biochim. Biophys. Acta Gene Regul. Mech.,** 1861, 72-79.

135. Ferreira, R.B., Wang, M., Law, M.E., Davis, B.J., Bartley, A.N., Higgins, P.J., Kilberg, M.S., Santostefano, K.E., Terada, N., Heldermon, C.D., Castellano, R.K., and Law, B.K. (2017) Disulfide bond disrupting agents activate the unfolded protein response in EGFR- and HER2-positive breast tumor cells. **Oncotarget**, 8, 28971-28989.

134. Shan, J., Zhang, F., Sharkey, J., Tang, T.A., and Kilberg, M.S. (2016) The C/ebp-Atf Response Element (CARE) Location Reveals Two Distinct Atf4-dependent, Elongation-mediated Mechanisms for Transcriptional Induction of Aminoacyl-tRNA Synthetase Genes in Response to Amino Acid Limitation. **Nucl. Acids Res**., 44, 9719-9732.

133. Yuniati, L., van der Meer, L.T., Tijchon, E.T., van IngenSchenau, D., van Emst, L., Levers, M., Palit, S.A.L., Rodenbach, C., Poelmans, G., Hoogerbrugge, P.M., Shan, J., Kilberg, M.S., Scheijen, B., van Leeuwen, F.N. (2016) BTG1 modulates ATF4 function in response to cellular stress: implications for tumor cell survival. **Oncotarget,** 7, 3128-3143.

132. Palmer, E.E., Sachdev, R., Cardamone, M., Kandula, T., Morris, P., Miller, D., Zhu, Y., Macintosh, R., Dinger, M., Cowley, M., Buckley, M., Roscioli, T., Bye, A., Kilberg, M.S., Edwin P Kirk, E.P. (2015) Asparagine Synthetase Deficiency Causes Reduced Proliferation of Cells Under Conditions of Limited Asparagine. **Mol. Genet. Metab.**, 116, 178-86.

131. Guimarães-Camboa, N., Stowe, J., Aneas, I., Sakabe, N., Cattaneo, P., Henderson, L., Kilberg, M.S., Johnson, R.S., Chen, J., McCulloch, A.D., Nobrega, M.A., Evans, S.M., Zambon, A.C. (2015) HIF1α Represses Cell Stress Pathways to Allow Proliferation of Hypoxic Fetal Cardiomyocytes. **Dev. Cell**, 33, 507-521.

130. Crawford, R.R., Prescott, E.T., Sylvester, C.F., Higdon, A.N., Shan, J., Kilberg, M.S., and Mungrue, I.N. (2015) Human CHAC1 proteindegrades glutathione and mRNA inductionis regulated by the transcription factors ATF4 and ATF3 and a bipartite ATF/CRE element. **J. Biol. Chem.**, 290, 15878-15891.

129. Shan, J., Donelan, W., Hayner, J.N., Zhang, F., Dudenhausen, E.E., and Kilberg, M.S. (2014) MAPK signaling triggers transcriptional induction of cFOS during amino acid limitation of HepG2 cells. **Biochim. Biophys. Acta,** 1853, 539-548.

128. Shan, J., Balasubramanian, M.N., Donelan, W., Fu, L., Hayner, J., Lopez, M.-C., Baker, H.V., and Kilberg, M.S. (2014) A MEK-Dependent Transcriptional Program Controls Activation of the Early Growth Response 1 (EGR1) Gene Following Amino Acid Limitation, **J. Biol. Chem.**, 289, 24665-24679.

127. Fan, A.X., Papadopoulos, G.L., Hossain, M.A., Lin, I.-J., Hu, J., Tang, T.M., Kilberg, M.S., Renne, R., Strouboulis, J., and Bungert, J. (2014) Genomic and Proteomic Analysis of Transcription Factor TFII-I Reveals Insight into the Response to Cellular Stress, **Nucl. Acids Res.**, 42, 7625-41.

126. Shan, J., Hamazaki, T., Tang, T.A., Terada, N., and Kilberg, M.S. (2013) Activation of the Amino Acid Response Modulates Lineage Specification During Differentiation of Murine Embryonic Stem Cells. **Amer. J. Physiol. Endo. Metab.**, 305, E325-335.

125. Teske, B.F., Fusakio, M.E., Zhou, D., Shan, J., McClintick, J.N., Kilberg, M.S., and Wek. R.C. (2013) CHOP Induces Activating Transcription Factor 5 (ATF5) to Trigger Apoptosis in Response to Perturbations in Protein Homeostasis. **Mol. Biol. Cell**, 24, 2477-2490.

124. Han, J., Back, S., Hur, J., Lin, Y-H., Gildersleeve, R., Shan, J., Yuan, C., Krokowski, D., Wang, S., Hatzoglou, M., Kilberg, M.S., Sartor, M.A., and Kaufman, R.J. (2013) Endoplasmic reticulum (ER) stress-induced transcriptional regulation increases protein synthesis leading to cell death. **Nature Cell Biol.**, 15, 481-490.

123. Fu, L. and Kilberg, M.S. (2013) Elevated cJUN Expression and an ATF/CRE Site Within the ATF3 Promoter Contribute to Activation of ATF3 Transcription by the Amino Acid Response. **Physiol. Genomics,** 45, 127-137.

122. Balasubramanian, M.N., Shan, J., and Kilberg, M.S. (2013) Dynamic Changes in Genomic Histone Association and Modification During Activation of the ASNS and ATF3 Genes by Amino Acid Limitation. **Biochem. J.**, 449, 219-229.

121. Shan, J., Fu, L., Balasubramanian, M.N., Anthony, T., and Kilberg, M.S. (2012) ATF4-Dependent Regulation of the JMJD3 Gene During Amino Acid Deprivation Can be Rescued in Atf4-Deficient Cells by Inhibition of Deacetylation. **J. Biol. Chem.**, 287, 36393-36403.

120. Fu, L., Balasubramanian, M., Shan, J., Dudenhausen, E., and Kilberg, M.S. (2011) Auto-Activation of cJUN by Amino Acid Deprivation of Hepatocellular Carcinoma Cells Reveals a Novel cJUN-Mediated Signaling Pathway. **J. Biol. Chem.**, 286, 36724-36738.

119. Bouman, L., Schlierf, A., Lutz, A.K., Shan, J., Deinlein,A., Kast, J., Galehdar,Z., Palmisano,V., Patenge,N., Berg, D., Gasser,T., Augustin,R., Tru¨mbach,D., Irrcher, I., Park,D.S., Wurst, W., Kilberg, M.S., Tatzelt, J., and Winklhofer, K.F. (2011) Parkin is transcriptionally regulated by ATF4: evidence for an interconnection between mitochondrial stress and ER stress. **Cell Death Differ**., 18, 769-782.

118. Shan, J., Lopez, M-C., Baker, H.V., and Kilberg, M.S. (2010) Expression profiling after activation of the amino acid deprivation response in HepG2 human hepatoma cells. **Physiol. Genomics,** 41, 315-327.

117. Shan, J., Örd, D., Örd, T., and Kilberg, M.S. (2009) Elevated ATF4 Expression, in the Absence of Other Signals, is Sufficient for Transcriptional Induction via C/EBP-ATF Response Elements, J. Biol. Chem., 284, 21241-21248.

116. Su, N., Thiaville, M.M., Awad, K., Gjymishka, A., Brant, J.O., Yang, T.P., and Kilberg, M.S. (2009) Protein or Amino Acid Deprivation Differentially Regulates the Hepatic FOXA Genes Through an ATF4-Independent Pathway, **Hepatology,** 50, 282-290.

115. Palii, S.S., Kays, C.E., Deval, C., Bruhat, A., Fafournoux., and Kilberg, M.S. (2009) Specificity of amino acid regulated gene expression: analysis of genes subjected to either complete or single amino acid deprivation. Amino Acids, 37, 79-88.

114. Gjymishka, A., Su, N., and Kilberg, M.S. (2009) Transcriptional Induction of the Human Asparagine Synthetase Gene During the Unfolded Protein Response Does Not Require the ATF6 and IRE1/XBP1 Arms of the Pathway. **Biochem. J**., 417, 695-703.

113. Su, N. and Kilberg, M. S. (2008) C/EBP homology protein (CHOP) Interacts with Activating Transcription Factor 4 (ATF4) and Negatively Regulates the Stress-Dependent Induction of the Asparagine Synthetase Gene, J. Biol. Chem., 283, 35106-35117.

 112. Thiaville, M.M., Dudenhausen, E.E., Awad, K.S., Zhong, C., and Kilberg, M.S. (2008) Activated Transcription Via Amino Acid Response Elements Does Not Require Enhanced Recruitment of the Mediator Complex. **Nuc. Acids Res.**, 36, 5571-5580.

111. Gjymishka, A., Palii, S.S., Shan, J., and Kilberg, M.S. (2008) Despite Increased ATF4 Binding at the C/EBP-ATF Composite Site Following Activation of the Unfolded Protein Response, System A Transporter 2 (SNAT2) Transcription Activity is Repressed in HepG2 Cells, **J. Biol. Chem.**, 283, 27736-27747.

110. Abbatiello, S.E., Pan, Y-X., Zhou, M., Wayne, A.S., Veenstra, T.D., Hunger, S.P., Kilberg, M.S., Eyler, J.R., Richards, N.G., Conrads, T.P. (2008) Mass Spectrometric Quantification of Asparagine Synthetase in Circulating Leukemia Cells from Acute Lymphoblastic Leukemia Patients. **J. Proteomics.,** 71, 61-70.

109. Thiaville, M.M., Pan, Y-X., Gjymishka, A., Zhong, C., Kaufman, R.J., and Kilberg, M.S. (2008) MEK Signaling is Required for Phosphorylation of eIF2α Following Amino Acid Limitation of HepG2 Human Hepatoma Cells. **J. Biol. Chem.,** 283, 10848-10857.

108. Aiken, K.J., Bickford, J.S., Kilberg, M.S., and Nick, H.S. (2008) Metabolic Regulation of Manganese Superoxide Dismutase Expression via Essential Amino Acid Deprivation. **J. Biol. Chem.,** 283, 10252-10263.

107. Thiaville, M.M., Dudenhausen, E.E., Zhong, C., Pan, Y-X., and Kilberg, M.S. (2008) Deprivation of Protein or Amino Acid Induces C/EBPβ Synthesis and Binding to Amino Acid Response Elements, but its Action is Not an Absolute Requirement for Enhanced Transcription. **Biochem. J.,** 410, 473-484.

106. Su, N., Pan, Y-X., Zhou, M., Harvey, R.C., Hunger, S.P., and Kilberg, M.S. (2008)

Correlation between Asparaginase Sensitivity and Asparagine Synthetase Protein Content, but not mRNA, in Acute Lymphoblastic Leukemia Cell Lines, **Pediatric Blood & Cancer**, 50, 274-279.

105. Pan, Y-X., Chen, C., Thiaville, M.M., and Kilberg, M.S. (2007) Activation of the ATF3 Gene through a Coordinated Amino Acid-Sensing Response Program that Controls Transcriptional Regulation of Responsive Genes Following Amino Acid Limitation. **Biochem. J.**, 401, 299-307.

104. Gutierrez, J.A., Pan, Y-X., Koroniak, L., Hiratake, J., Kilberg, M.S., and Richards, N.G.J. (2006) An Inhibitor of Human Asparagine Synthetase Suppresses Proliferation of an L-Asparaginase Resistant Leukemia Cell Line. **Chem. & Biol.**, 13, 1339-1347.

103. Kilberg, M.S. (2006) Amino Acid-Dependent Signal Transduction for Control of Transport and Metabolism. **Acta Biomed.**, 77(Suppl. 3), 18-20.

## 102. Chen, H. and Kilberg, M.S. (2006) Alignment of the Transcription Start Site Coincides with Increased Transcriptional Activity from the Human Asparagine Synthetase Gene Following Amino Acid Deprivation. J. Nutr., 136, 2463-2467.

101. Palii, S.S., Thiaville, M.M., Pan, Y-X., Zhong, C., and Kilberg, M.S. (2006) Characterization of the Amino Acid Response Element Within the Human SNAT2 System A Transporter Gene. **Biochem. J.**, 395, 517-527.

100. Chen C., Dudenhausen, E.E., Chen, H., Pan, Y-X., Gjymishka, A., and Kilberg, M.S. (2005) Amino Acid Limitation Induces Transcription from the Human C/EBPβ Gene Via an Enhancer Activity Located Downstream of the Protein Coding Sequence. **Biochem. J.**, 391, 649-658.

99. Pan, Y-X., Chen, H., and Kilberg, M.S. (2005) Interaction of RNA-Binding Proteins HuR and AUF1 with the human ATF3 mRNA 3′ UTR Regulates its Amino Acid Limitation-Induced Stabilization. **J. Biol. Chem.,** 280, 34609-34616.

98. Chen, H., Pan, Y., Dudenhausen, E.E., and Kilberg, M.S. (2004) Amino Acid Deprivation Induces the Transcription Rate of the Human Asparagine Synthetase Gene Through a Timed Program of Expression and Promoter Binding of Nutrient-Responsive bZIP Transcription Factors as well as Localized Histone Acetylation. J. Biol. Chem., 279, 50829-50839.

97. Chen, C., Dudenhausen, E.E., Pan, Y., Zhong, C., and Kilberg, M.S. (2004) Human CCAAT/Enhancer-Binding Protein Beta (C/EBPβ) Gene Expression is Activated By Endoplasmic Reticulum Stress through an Unfolded Protein Response Element Downstream of the Protein Coding Sequence. **J. Biol. Chem.**, 279, 27948-27956.

96. Leung-Pineda, V., Chen, H., and Kilberg, M.S. (2004) Induction of p21 and p27 Expression by Amino Acid Deprivation of HepG2 Human Hepatoma Cells. **Biochem. J.**, 379, 79-88.

95. Palii, S.S., Chen. H., and Kilberg, M.S. (2004) Transcriptional Control of the Human SNAT2 System A Transporter Gene by Amino Acid Availability is Mediated by an Intronic Element. **J. Biol. Chem**., 279, 3463-3471.

1. Pan, Y.-X., Chen, H., Siu, F., and Kilberg, M.S. (2003) Amino Acid Deprivation and Endoplasmic Reticulum Stress Induce Expression of Multiple Activating Transcription Factor-3 mRNA Species That, When Over-expressed in HepG2 Cells, Modulate Transcription by the Human Asparagine Synthetase Promoter. **J. Biol. Chem.**, 278, 38402-38412.

93. Burkhardt, B.R., Loiler, S.A., Anderson, J.A., Kilberg, M.S., Crawford, J.M., Flotte, T.R., Goudy, K.S., Ellis, T.M., and Atkinson, M. (2003) Glucose-responsive expression of the human insulin promoter in HepG2 human hepatoma cells. **Ann. N. Y. Acad. Sci.,** 1005, 237-241.

92. Weiss, M.D., Derazi, S., Rossignol, C., Varoqui, H., Erickson, J.D., Kilberg, M.S., and Anderson, K.J. (2003) Ontogeny of the neutral amino acid transporter SAT1/ATA1 in rat brain. **Dev. Brain Res.,** 143, 151-159.

91. Zhong, C., Chen, C., and Kilberg, M.S. (2003) Characterization of the Nutrient Sensing Response Unit in the Human Asparagine Synthetase Promoter. **Biochem. J.**, 372, 603-609.

90. Chang, S.-H., Garcia, J., Melendez, J.A., Kilberg, M.S., and Agarwal, A. (2003) Heme Oxygenase-1 Gene Induction by Glucose Deprivation is Mediated by Reactive Oxygen Species via the Mitochondrial Electron Transport Chain. **Biochem. J.**, 371, 877-885.

89. Bruhat, A., Averous, J., Carraro, V., Zhong, C., Reimold, A.M., Kilberg, M.S., and Fafournoux, P. (2002) Differences in the Molecular Mechanisms Involved in the Transcriptional Activation of CHOP and Asparagine Synthetase in Response to Amino Acid Deprivation and Activation of the Unfolded Protein Response, **J. Biol. Chem.**, 277, 48107-48114.

88. Bain, P.J., LeBlanc-Chaffin, R., Chen, H., Palii, S.S., Leach, K.M., and Kilberg, M.S. (2002) The Mechanism for Transcriptional Activation of the Human ATA2 Transporter Gene by Amino Acid Deprivation is Different Than That for Asparagine Synthetase, **J. Nutr**., 132, 3023-3029.

1. Yang, W. and Kilberg, M.S. (2002) Biosynthesis, Intracellular Targeting, and Degradation of the EAAC1 Glutamate/Aspartate Transporter in C6 Glioma Cells, **J. Biol. Chem.**, 277, 38350-38357.

**86.** Siu, F., Bain, P.J., LeBlanc-Chaffin, R., Chen, H., and **Kilberg, M.S.** (2002) **ATF4 is a Mediator of the Nutrient Sensing Response Pathway that Activates the Human Asparagine Synthetase Gene. J. Biol. Chem., 277, 24120-24127.**

**85. Cramer, S., Beveridge, M., Kilberg, M. and Novak, D. (2002) Physiological Importance of System A-Mediated Amino Acid Transport to Rat Fetal Development. Am. J. Physiol. 282, C153-C160.**

84. Leung-Pineda, V. and **Kilberg, M.S.** (2002) **Role of Sp1 and Sp3 in the Nutrient-Regulated Expression of the Human Asparagine Synthetase Gene. J. Biol. Chem., 277, 16585-16591.**

83. Chang, S.-H., Barbosa-Tessmann, I., Chen, C., Kilberg, M.S., and Agarwal, A., (2002) Glucose Deprivation Induces Heme Oxygenase-1 Gene Expression by a Pathway Independent of the Unfolded Protein Response. **J. Biol. Chem**., 277, 1933-1940.

82. Siu, F., Chen, C., Zhong, C., and Kilberg, M.S. (2001) CCAAT/Enhancer-Binding Protein Beta (C/EBPβ) is a Mediator of the Nutrient Sensing Response Pathway that Activates the Human Asparagine Synthetase Gene. **J. Biol. Chem.**, 276, 48100-48107.

81. Weiss, M.D., Derazi, S., Kilberg, M.S., and Anderson, K.J. (2001) Ontogeny and Localization of the Amino Acid Transporter ASCT1 in Rat Brain. **Dev. Brain Res.**, 130, 183-190.

80. Aslanian, A.M. and Kilberg, M.S. (2001) Multiple Adaptive Mechanisms Affect Asparagine Synthetase Substrate Availability in Asparaginase Resistant Molt-4 Human Leukemia Cells. **Biochem. J**., 358, 59-67.

79. Aslanian, A.M., Fletcher, B.S., and Kilberg, M.S. (2001) Asparagine Synthetase Expression Alone is Sufficient to Induce Asparaginase Resistance in Molt-4 Human Leukemia Cells.

 **Biochem. J**., 357, 321-328.

78. Barbosa-Tessmann, I.P., Chen, C., Zhong, C., Siu, F., Schuster, S.M., Nick, H.S., and Kilberg, M.S. (2000) Activation of the Human Asparagine Synthetase Gene by the Amino Acid Response and the Endoplasmic Reticulum Stress Response Pathways Occurs by Common Genomic Elements. **J. Biol. Chem**., 275, 26976-26985.

77. Barbosa-Tessmann, I.P., Chen, C., Zhong, C., Schuster, S.M., Nick, H.S., and Kilberg, M.S. (1999) Activation of the Unfolded Protein Response Pathway Induces Human Asparagine Synthetase Gene Expression. **J. Biol. Chem**., 274, 31139-31144.

76. Matthews, J.C., Beveridge, M.J., Dialynas, E., Bartke, A., Kilberg, M.S., and Novak, D.A., (1999) Placental Anionic and Cationic Amino Acid Transporter Expression in Growth Hormone Overexpressing, Null IGF-II, or Null IGF-I Receptor Mice. **Placenta**, 20, 639-650.

75. Barbosa-Tessmann, I.P., Leung Pineda, V., Nick, H.S., Schuster, S.M., and Kilberg, M.S. (1999) Transcriptional Regulation of the Human Asparagine Synthetase Gene by Carbohydrate Availability. **Biochem. J.**, 339, 151-158.

74. Matthews, J.C., Beveridge, M.J., Malandro, M.S., Rothstein, J.D., Campbell-Thompson, M., Verlander, J., Kilberg, M.S., and Novak, D.A., (1998) Activity and Protein Localization of Multiple Glutamate Transporters in Gestation Day 14 versus Day 20 Rat Placenta. **Am. J. Physiol.,** 274, C603-C614.

73. Matthews, J.C., Beveridge, M.J., Malandro, M.S., Kilberg, M.S., and Novak, D.A., (1998) Response of Placental Amino Acid Transport to Gestational Age and Interuterine Growth Retardation. **Proc. Nutr. Soc.,** 57, 257-263.

72. McDonald, K.K., Zharikov, S., Block, E.R., and Kilberg, M.S. (1997) A Caveolar Complex between the Cationic Amino Acid Transporter 1 and Endothelial Nitric‑oxide Synthase May Explain the "Arginine Paradox". **J. Biol. Chem**., 272, 31213-31216.

71. Matthews, J.C., Aslanian, A.M., McDonald, K.K., Yang, W., Malandro, M.S., Novak, D.A., and Kilberg, M.S. (1997) An Expression System for Amino Acid Transporters Using a Stably-Maintained Episomal Vector. **Anal. Biochem.,** 254, 208-214.

70. Hyatt, S.L., Aulak, K.S., Malandro, M.S., Kilberg, M.S., and Hatzoglou, M., (1997) Adaptive Regulation of the Cationic Amino Acid Transporter-1 (CAT-1) in Fao Cells. **J. Biol. Chem.,** 272, 19951-19957.

69. Novak, D.A., Matthews, J.C., Beveridge, M.J., Yao, S.Y.M., Young, J., and Kilberg, M.S., (1997) Demonstration of System y+L Activity on the Basal Plasma Membrane Surface of Rat Placenta and Developmentally-Regulated Expression of 4F2HC mRNA., **Placenta,** 18, 643-648.

68. Hutson, R.G., Kitoh, T., Moraga Amador, D., Cosic, S., Schuster, S.M., and Kilberg, M.S. (1997) Amino Acid Control of Asparagine Synthetase: Relation to Asparaginase Resistance in Human Leukemia Cells. **Am. J. Physiol**., 272, 1691-1699.

67. McDonald, K.K., Rouhani, R., Handlogten, M.E., Block, E.R., Griffith, O.W., Allison, R.D.,and Kilberg, M.S. (1997) Inhibition of Endothelial Cell Transport System y+ by Arginine Analogs that Inhibit Nitric Oxide Synthase.  **Biochim. Biophys. Acta**,1324, 133-141.

66. Tamarappoo, B.K., Raizada, M., and Kilberg, M.S. (1997) Identification of a Novel Na+-dependent Glutamine Transporter in Rat Neurons. **J. Neurochem.** 68, 954-960.

65. Hutson, R.G., Warskulat, U., Häussinger, D., and Kilberg, M.S. (1996) An Example of Nutrient Control of Gene Expression: Amino Acid-dependent Regulation of Asparagine Synthetase. **Clinical Nutrition,** 15, 327-331**.**

64. Malandro, M.S., Beveridge, M.J., Kilberg, M.S., and Novak, D.A., (1996) Effect of Low-Protein Diet-Induced Intrauterine Growth Retardation on Rat Placental Amino Acid Transport. **Am. J. Physiol.,** 271, C295-C303.

63. Malandro, M.S., Beveridge, M.J., Novak, D.A., and Kilberg, M.S. (1996) Rat Placental Amino Acid Transport After Protein-Deprivation-Induced Intrauterine Growth Retardation. **Biochem. Soc. Trans.** 24, 839-843.

62. Handlogten, M.E., Dudenhausen, E.E., Yang, W., and Kilberg, M.S. (1996) Association of Hepatic System A Amino Acid Transporter with the Membrane-Cytoskeletal Proteins Ankyrin and Fodrin.  **Biochim. Biophys. Acta,** 1282, 107-114.

61. Velaz-Faircloth, L., McGraw, T.S., Fremeau, R.T., Jr., Malandro, M.S., Kilberg, M.S., and Anderson, K.J. (1996) Characterization and Distribution of a Neuronal Glutamate Transporter Cloned from Rat Brain. **Am. J. Physiol.,** 270, C67-C75.

60. Tamarappoo, B.K., McDonald, K.K., and Kilberg, M.S. (1996) Expressed Human ASCT1 Hippocampal Amino Acid Transporter Exhibits a pH-Dependent Change in Substrate Specificity. **Biochim. Biophys. Acta,** 1279, 131-136.

59. Hutson, R.G. and Kilberg, M.S., (1994) Cloning of a Rat Asparagine Synthetase cDNA and Substrate Specificity of the Amino Acid-Dependent Control of Its mRNA Content. **Biochem. J.,** 304, 745-750.

1. Tamarappoo, B.K., Singh, H.P., and Kilberg, M.S. (1994) Protein Modification of Glutamine Transport in SV40-Transformed Hepatocytes and Immunodetection of Proteins Associated with System N Transport Activity.  **J. Nutr.,** 124, S1493-1498.

57. Malandro, M.S., Beveridge, M.J., Kilberg, M.S., and Novak, D.A. (1994) Ontogeny of Cationic Amino Acid Transport Systems in Placenta. **Am. J. Physiol.,** 267, C804-811.

56. Novak, D.A., Kilberg, M.S., and Beveridge, M.J. (1994) Ontogeny and Plasma Membrane Localization of Amino Acid Transport System L in Rat Liver., **Biochem. J.,** 301, 671-674.

55. Woodard, M. H., Dunn, W.A., Laine, R. O., Malandro, M., McMahon, R., Simell, O., Block, E.R., and Kilberg, M.S. (1994) Plasma Membrane Clustering of the System y+

 (CAT-1) Amino Acid Transporter as Detected by Immunohistochemistry. **Am. J. Physiol.,** 266, E817-E824.

54. Laine, R.O., Shay, N.F., and Kilberg, M.S. (1994) Nuclear Retention of the Induced mRNA Following Amino Acid-Dependent Transcriptional Regulation of Mammalian Ribosomal Proteins L17 and S25. **J. Biol. Chem.** 269, 9693-9697.

53. Chiles, T.C., Laine, R.O., Shay, N., Nick, H.S., Handlogten, M.E., and Kilberg, M.S. (1993) Enhanced mRNA Content in Response to Amino Acid Starvation for a 73 kDa Protein of the Inner Mitochondrial Membrane.  **Biochem. Biophys. Res. Commun.** 193, 1068-1075.

52. Shafqat, S., Tamarappoo, Balaji K., Kilberg, M.S., Puranam, R.S., McNamara, J.O., Guadano-Ferraz, A., and Fremeau, R.T., (1993) Cloning and Expression of a Novel Na+-Dependent Neutral Amino Acid Transporter Structurally Related to Mammalian Na+/Glutamate Cotransporters. **J. Biol. Chem.** 268, 15351-15355.

51. Tamarappoo, B.K., Nam, M., Kilberg, M.S., and Welbourne, T.C., (1993) Glucocorticoid Regulation of Splanchnic Glutamine, Alanine, Glutamate, Ammonia, and Glutathione Fluxes. **Am. J. Physiol.** 264, E526-E533.

50. Cariappa, R. and Kilberg, M.S. (1992) Plasma Membrane Domain Localization, Targeting, and Transcytosis of the Glucagon-Induced Hepatic System A Carrier. **Am. J. Physiol.** 263, E1021-E1028.

49. Tamarappoo, B.K., Handlogten, M.E., Laine, R.O., Serrano, M.A., Dugan, J., and Kilberg, M.S. (1992) Identification of the Protein Responsible for Hepatic System N Amino Acid Transport Activity. **J. Biol. Chem.** 267, 2370-2374.

48. Laine, R.O. Laipis, P.J., Shay, N.F., and Kilberg, M.S. (1991) Identification of an Amino Acid-Regulated mRNA (ASI) from Rat Liver as the Mammalian Equivalent of Bacterial Ribosomal Protein L22. **J. Biol. Chem.**, 266, 16969-16972.

47. Wilde, S.W. and Kilberg, M.S., (1991) Glutamine Transport by Basolateral Plasma Membrane Vesicles Prepared from Rabbit Intestine. **Biochem. J.** 277,687-692.

46. Bode, B.P. and Kilberg, M.S. (1991) Amino Acid-Dependent Increase in Hepatic System N Activity is Linked to Cell Swelling. **J. Biol. Chem.** 266, 7376-7381.

45. Tamarappoo, B.K. and Kilberg, M.S., (1991) Functional Reconstitution of the Hepatic System N Amino Acid Transport Activity. **Biochem. J.** 274, 97-101.

44. Shay, N.F., Nick, H.S., and Kilberg, M.S., (1990) Molecular Cloning of an Amino Acid Regulated mRNA (ASI) in Rat Hepatoma Cells. **J. Biol. Chem.** 265, 17844-17848.

43. Mailliard, M.E. and Kilberg, M.S., (1990) Characterization of Hepatic Amino Acid Transport in Human Liver Plasma Membrane Vesicles. **J. Biol. Chem.** 265, 14321-14326.

42. Tarnuzzer, R., Campa, M.J., Qian, N.-X., Englesberg, E., and Kilberg, M.S., (1990) Expression of the Mammalian System A Neutral Amino Acid Transporter in Xenopus Oocytes. **J. Biol. Chem.** 265, 13914-13917.

41. Campa, M. and Kilberg, M.S., (1990) Characterization of Neutral and Cationic Amino Acid Transport in Xenopus Oocytes. **J. Cell. Physiol.** 141, 645-652.

40. Cariappa, R. and Kilberg, M.S., (1990) Hormone-Induced System A Amino Acid Transport Activity in Rat Liver Plasma Membrane and Golgi Vesicles. Evidence for a Differential Sensitivity to Inactivation by NEM During Carrier Maturation. **J. Biol. Chem.** 265, 1470-1475.

39. Fong, A. D., Handlogten, M.E., and Kilberg, M.S. (1989) Substrate-Dependent Adaptive Regulation and Trans-Inhibition of System A-Mediated Amino Acid Transport. Studies Using Rat Hepatoma Plasma Membrane Vesicles. **Biochim. Biophys. Acta** 1022, 325-332.

38. Fafournoux, P., Dudenhausen, E., and Kilberg, M.S., (1989) Solubilization and Reconstitution Characteristics of Hepatic System A-mediated Amino Acid Transport. **J**. **Biol**. **Chem**. 264, 4805-4811.

37. Kilberg, M.S. (1989) Measurement of Amino Acid Transport by Hepatocytes in Suspension and Monolayer Culture. **Methods Enzymol.** 173, 564-575.

36. Chiles, T.C., Dudeck-Collart, K.L., and Kilberg, M.S. (1988) Inactivation of Amino Acid Transport in Rat Hepatocytes and Hepatoma Cells By PCMBS. **Am. J. Physiol.** 255, C340-C345.

35. Handlogten, M.E. and Kilberg, M.S. (1988) Growth-Dependent Regulation of System A in SV40-Transformed Fetal Rat Hepatocytes. **Am. J. Physiol.** 255, C261-C270.

34. Kilberg, M.S. and Handlogten, M.E. (1988) Transport of Branched Chain Amino Acids and Their Corresponding 2-Keto Acids by Mammalian Cells. **Methods Enzymol.** 166, 252-260.

33. Dudeck, K.L., Dudenhausen, E. E., Chiles, T.C., Fafournoux, P., and Kilberg, M.S., (1987) Evidence for Inherent Differences in the System A Carrier from Normal and Transformed Liver Tissue. Differential Inactivation and Substrate Protection in Membrane Vesicles and Reconstituted Proteoliposomes. **J. Biol. Chem.** 262, 12565-12569.

32. Chiles, T.C., O'Brien, T.W., and Kilberg, M.S. (1987) Production of Monospecific Antibodies to a Low-Abundance Hepatic Membrane Protein Using Nitrocellulose Immobilized Protein as Antigen. **Anal. Biochem.** 163, 136-142.

31. Bracy, D.S., Schenerman, M.A., and Kilberg, M.S. (1987) Solubilization and Reconstitution of Hepatic System A-mediated Transport: Preparation of Proteoliposomes Containing Glucagon-Stimulated Transport Activity. **Biochim. Biophys. Acta** 899, 51-58.

30. Chiles, T.C. and Kilberg, M.S. (1986) System A Transport Activity in Normal Rat Hepatocytes and Transformed Liver Cells: Substrate Protection from Inactivation by Sulfhydryl-Modifying Reagents. **J. Cell. Physiol.** 129, 321-328.

29. Kilberg, M.S., Bracy, D.S. and Handlogten, M.E. (1986) Substrate Regulation of Hepatic System A Transport Activity Following Induction by Substrate Starvation or Glucagon. **Fed. Proc**. 45, 2438-2454.

28. Schenerman, M.A. and Kilberg, M.S. (1986) Maintenance of Glucagon-Stimulated System A Amino Acid Transport Activity in Rat Liver Plasma Membrane Vesicles. **Biochim. Biophys. Acta** 856, 428-436.

27. Bracy, D.S., Handlogten, M.E., Barber, E.F., Han, H.-P. and Kilberg, M.S. (1986) cis-Inhibition, trans-Inhibition and Repression of Hepatic Amino Acid Transport Mediated by System A. Substrate Specificity and Other Properties. **J. Biol. Chem**. 261, l514-1520.

26. Handlogten, M.E., Barber, E.F., Bracy, D.S. and Kilberg, M.S. (1985) Amino Acid-Dependent Inactivation of Glucagon-Induced System A Transport Activity in Cultured Rat Hepatocytes. **Mol. Cell. Endocrin**. 43, 61-69.

25. Gardner, D.F., Kilberg, M.S., Wolfe, M.M., Buynitzkey, S.J. and Misbin, R.I. (1985) Preferential Binding of Vasoactive Intestinal Peptide to Hepatic Nonparenchymal Cells. **Am. J. Physiol**. 248, G663-G669.

24. Bannai et al (1984) Amino Acid Transport Systems. **Neurochem. Res**. 9, 1757-1758.

23. Bannai et al (1984) Amino Acid Transport Systems. **Nature** (Letter to Editor) 311, 308.

22. Kilberg, M.S., Han, H.-P., Barber, E.F. and Chiles, T.C. (1985) Adaptive Regulation of Neutral Amino Acid Transport System A in Rat H4 Hepatoma Cells. **J. Cell. Physiol**. 122, 290-298.

21. Weissbach, L. and Kilberg, M.S. (1984) Amino Acid-Activation of Amino Acid Transport System N Early in Primary Cultures of Rat Hepatocytes. **J. Cell. Physiol**. 121, 1313-1318.

20. Handlogten, M.E. and Kilberg, M.S. (1984) Induction and Decay of Amino Acid Transport in the Liver. Turnover of Transport Activity in Isolated Hepatocytes After Stimulation by Diabetes or Glucagon. **J. Biol. Chem.** 259, 3519-3525.

19. Barber, E.F., Handlogten, M.E. and Kilberg, M.S. (1983) Induction of Amino Acid Transport System A in Rat Hepatocytes is Blocked by Tunicamycin. **J. Biol. Chem.** 258, 11851-11855.

18. Kilberg, M.S. and Gwynn, M.B. (1983) Plasma Membrane Transport of 2-Ketoisocaproate by Rat Hepatocytes in Primary Culture. **J. Biol. Chem.** 258, 11524-11527.

17. Kilberg, M.S., Vida, T.A. and Barber, E.F. (1983) Regulation of Neutral Amino Acid Transport in Hepatocytes Isolated from Adrenalectomized Rats. **J. Cell. Physiol.** 114, 45-52.

16. Barber, E.F., Handlogten, M.E., Vida, T.A. and Kilberg, M.S. (1982) Neutral Amino Acid Transport in Hepatocytes Isolated from Streptozotocin-induced Diabetic Rats. **J. Biol. Chem.** 257, 14960-14967.

15. Weissbach, L., Handlogten, M.E., Christensen, H.N. and Kilberg, M.S. (1982) Evidence for Two Na+-independent Neutral Amino Acid Transport Systems in Primary Cultures of Rat Hepatocytes. Time-Dependent Changes in Activity. **J. Biol. Chem.** 257, 12006-12011.

14. Handlogten, M.E. and Kilberg, M.S. (1982) Transport System A is Not Responsive to Hormonal Stimulation in Primary Cultures of Fetal Rat Hepatocytes.  **Biochem.** **Biophys. Res. Commun.** 108, 1113-1119.

13. Handlogten, M.E., Weissbach, L. and Kilberg, M.S. (1982) Heterogeneity of Na+-independent 2-Aminobicyclo-(2,2,1)-heptane-2-carboxylic Acid and L-Leucine Transport in Isolated Rat Hepatocytes in Primary Culture. **Biochem. Biophys. Res. Commun.** 104, 307-313.

12. Handlogten, M.E., Kilberg, M.S. and Christensen, H.N. (1982) Incomplete Correspondence Between Repressive and Substrate Action by Amino Acids on Transport Systems A and N in Monolayered Rat Hepatocytes. **J. Biol. Chem.** 257, 345-348.

11. Shotwell, M.A., Jayme, D.W., Kilberg, M.S. and Oxender, D.L. (1981) Neutral Amino Acid Transport Systems in Chinese Hamster Ovary Cells. **J. Biol. Chem.** 256, 5422-5427.

1. Kilberg, M.S., Handlogten, M.E. and Christensen, H.N. (1981) Characterization of System ASC in Isolated Rat Hepatocytes. **J. Biol. Chem.** 256, 3304-3312.

9. Kilberg, M.S., Handlogten, M.E. and Christensen, H.N. (1980) Characteristics of an Amino Acid Transport System in Rat Liver for Glutamine, Asparagine, Histidine, and Closely Related Analogs. **J. Biol. Chem.** 255, 4011-4019.

8. Ohsawa, M., Kilberg, M.S., Kimmel, G. and Christensen, H.N. (1980) Energization of Amino Acid Transport in Energy-Depleted Ehrlich Cells and Plasma Membrane Vesicles. **Biochim. Biophys. Acta** 599, 175-190.

7. Kilberg, M.S. and Christensen, H.N. (1980) The Relationship Between Membrane Potential and the Transport Activity of Systems A and L in Ehrlich Cell Plasma Membrane Vesicles. **Memb. Biochem.** 3, 155-168.

6. Kilberg, M.S., Christensen, H.N. and Handlogten, M.E. (1979) Cysteine as a System-Specific Substrate for Transport System ASC in Rat Hepatocytes. **Biochem. Biophys. Res. Commun.** 88, 744-751.

5. Kilberg, M.S. and Christensen, H.N. (1979) Electron-Transferring Enzymes in the Plasma Membrane of the Ehrlich Ascites Tumor Cell. **Biochemistry** 18, 1525-1530.

4. Kilberg, M.S. and Neuhaus, O.W. (1978) Hormonal Control of Amino Acid Transport in the Liver of Rats Exposed to Whole-Body Irradiation. **Radiat. Res.** 73, 360-372.

3. Kilberg, M.S. and Neuhaus, O.W. (1977) Hormonal Regulation of Hepatic Amino Acid Transport. **J. Supramol. Structure** 6, 191-204.

2. Kilberg, M.S. and Neuhaus, O.W. (1976) The Role of Stimulated Amino Acid Transport in Promoting Glycogenesis in the Irradiated Rat. **Radiat. Res.** 66, 597-608.

1. Kilberg, M.S. and Neuhaus, O.W. (1975) Accumulation of 2-Aminoisobutyric Acid by Rat Tissues following Whole-Body Irradiation. **Radiat. Res.** 64, 546-554.

#### BOOK CHAPTERS / MONOGRAPHS:

8. Kilberg, M.S., Zhong, C., McClellan, R., and Pan, Y. (2004) Transcriptional regulatory mechanisms for the response to amino acid deprivation of mammalian cells. In, **“Nutrient-Induced Responses in Eukaryotic Cells”**, Topics in Current Genetics, (Winderickx, J. and Taylor, P.M, eds), Springer Verlag, Berlin, pp. 5-24.

7. Kilberg, M.S., Leung-Pineda, V., and Chen, C. (2003) Amino Acid-Dependent Control of Transcription in Mammalian Cells, In, **“Molecular Nutrition”**, (Daniel H. and Zempleni, J., eds), CABI Publishing, Wallington, U.K., pp. 105-119.

6. Häussinger, D. and Kilberg, M.S. (1992) Amino Acid Transport in the Liver., In "**Mammalian Amino Acid Transport: Mechanisms and Control"**, (Kilberg, M. and Häussinger, D., eds), Plenum Press, N.Y., pp.133-148.

5. Lang, F., Häussinger, D., and Kilberg, M.S. (1992) Amino Acid Transport: Relation to Cell Volume and Cell Growth, In, **"Mammalian Amino Acid Transport: Mechanisms and Control"**, (Kilberg, M. and Häussinger, D., eds), Plenum Press, pp. 113-130.

4. Kilberg, M.S., (1989) Regulation of Hepatic Amino Acid Transport and Partial Purification of the System A Carrier., In, **"Hepatic Transport of Organic Solutes,** (Petzinger, E., Kinne, R., and Sies, H., eds), Springer-Verlag, Berlin, pp. 167-176.

3. Christensen, H.N. and Kilberg, M.S. (1987) Amino Acid Transport Across the Plasma Membrane: Role of Regulation in Interorgan Flows., In, **Physiological Society Study Guides**, Manchester University Press, Manchester, U.K., pp. 10-46.

2. Kilberg, M.S., Weissbach, L. and Barber, E.F. (1983) Changes in Amino Acid Transport in Primary Cultures of Adult Rat Hepatocytes. In, **Isolation, Characterization and Use of Hepatocytes,** (Harris, R.A. and Cornell, N.W., eds), Elsevier, New York, pp. 227-232.

1. Kilberg, M.S. and Neuhaus, O.W. (1978) Hormonal Regulation of Hepatic Amino Acid Transport. In, **"Molecular Aspects of Membrane Transport".** A.R. Liss, New York, pp. 117-130.

#### BOOKS EDITED:

Kilberg, M.S. and Häussinger, D., Editors, **“Mammalian Amino Acid Transport: Mechanisms and Control”**, Plenum Press (1992).

#### REPRESENTATIVE COMMITTEE ASSIGNMENTS:

**Departmental Committees (Examples)**

1980-1981 Faculty Recruiting Committee

1982-1984 Curriculum Committee

1984-1985 Faculty Recruiting Committee

1986-1988 Faculty Recruiting Committee

1981-1996 Graduate Studies Committee

1982-1995 Graduate Student Recruiting Committee

1982-1995 Computer Services Committee

1982-1989 Chairman, Graduate Student Recruiting Committee

1995 Faculty Recruiting Committee

1997-2004 Graduate Studies Committee

2003-2005 Chair, Faculty Recruiting Committee

2014-2018 Faculty Recruiting Committee

**Health Center Committees (Examples)**

1994 College of Medicine Task Force on Graduate Education Center

1996-1999 College of Medicine Professor Promotion Committee

1996-2000 Center for Structural Biology Optical Microscopy Core Facility

1996-1998 College of Medicine Faculty Research Advisory Board

1999-2000 College of Medicine IDP Curriculum Review Committee

2000-2002 Clinical Research Center Advisory Committee

2000-2005 College of Medicine IDP Graduate Program Advisory Board

2001-2005 Cancer Center Research Grant Committee, Co-Chairman

2001-2004 Cancer Center Institutional Research Grant Committee, member

2001-2003 Powel Center for Gene Therapy Oversight Committee

2004 Cancer Center Faculty Search Committee, Chair

2005 Genetic Institute Faculty Search Committee, Chair

2013-2022 Graduate Student Interdisciplinary Program Recruiting Committee

**University Committees (Examples)**

1982 Sponsored Research Grant Review Committee for the Life Sciences

1987-1989 University Senate

1991-1993 University Senate

1992-1993 Search Committee, VP for Research and Dean of Graduate School

* 1. Interdisciplinary Center for Biotechnology Advisory Committee

#### REPRESENTATIVE TEACHING ASSIGNMENTS:

BCH 6206 Adv.Topics in Metabolic Control to graduate students.

DEN 5121. A one-semester course for first year dental students.

VEM 5131. A one-semester course for first year veterinary students.

BCH 7410. A graduate course covering gene regulation.

BMS 6204. A one-semester course for first year medical students.

##### PhD GRADUATE STUDENTS TRAINED:

Lawrence Weissbach 1984 Vertex Pharmaceuticals

Mark A. Schenerman 1986 Director Anal. Bioch., MedImmune, Gaithersburg, M.D.

Thomas Chiles 1988 Vice Provost for Research, Boston College

Michael Campa 1989 Associate Professor, UNC, Chapel Hill

Neil Shay 1990 Professor, Oregon State University

Barrie P. Bode 1991 Chair, Dept. Biol. Sciences, Northern Illinois University

Rohit Cariappa 1991 NeoGen Labs, India

Marc Malandro 1995 Vice President for Science, Chan Zuckerberg Initiative

Richard Hutson 1995 Patent Office, Washington, D.C.

Kelly McDonald 1998 Assoc. Prof. and Assist. Chair, Sacramento State Univ.

Wenbo Yang, M.D. 1998 Sepracor, Marlborough, MA

Ione Barbosa-Tessmann 1999 Professor, Univ. of Maringa, Brazil

Ara Aslanian 2000 Investigator, Norvartis, Boston

Perry Bain, D.V.M. 2001 Assistant Professor, Tufts Univ., Boston

Van Leung-Pineda 2003 Clinical Chemist, Children’s Health Care, Atlanta

Chin Chen, M.S. 2004 Research Assistant, Stanford Univ.

Stela Palii. M.S. 2004 Investigator, NIH

Michelle Thiaville 2008 Assistant Professor, Nicholls State University

Nan Su 2008 President, Clover Biomedical Systems, San Jose

Altin Gjymishka 2008 University of Georgia

Mukundh Balasubramanian 2012 Post-doctoral Fellow, Pée-sur-Nivelle, France

Mario Chang 2020(M.S.) PhD Candidate, University of Florida

**CLINICAL and POST-DOCTORAL FELLOWS TRAINED:**

Pierre Fafournoux, Ph.D. 1986-1987 Laboratoire des Maladies Metaboliques, France

Neela Soman, Ph.D. 1986-1987 Research Assistant, MIT

Mark Mailliard, M.D. 1986-1988 Professor and Chief, Univ. Nebr. Medical Center

Stephan Wilde, M.D. 1987-1989 Private Practice, Athens Georgia

Ke-hui Cui, M.D. 1988-1989 HCLB, Fertility Institutes, Los Angles

Roy Tarnuzzer, Ph.D. 1988-1989 Director, Health Research Institute, Orlando

Emil Kozarov, Ph.D. 1991-1992 University of North Carolina

Toshi Kitoh, M.D., Ph.D. 1993-1994 Professor of Pediatrics, Kyoto University

Ron Laine, Ph.D. 1990-1994 Assist. Res, Prof., Whitney Marine Laboratory

Paul Singh, M.D. 1991-1992 Private Practice, St. Petersburg, Florida

Michelle Woodard, M.D. 1992-1993 Private Practice, Watkinsville, GA

B. Tamarappoo, M.D., Ph.D. 1989-1994 Assoc. Medical Director, Cedars-Sinai, L.A.

James Matthews, Ph.D. 1995-1998 Professor, University of Kentucky

Michael Weiss, M.D. 1997-2000 Associate Professor of Pediatrics, Univ. Florida

Randy McClellan, M.D. 2000-2002 Pediatric Gastro Associates., Huntsville, AL

YuanXiang Pan, Ph.D. 2002-2006 Associate Professor, U. Illinois

Hong Chen, Ph.D. 2002-2006 Associate Professor, U. Illinois

Jixiu Shan, Ph.D. 2007-2021 Associate Research Professor, U. Florida

Keytam Awad, Ph.D. 2007-2009 Research Scientist, NIH

Lingchen Fu, M.D., Ph.D. 2009-2012 Assoc. Research Scientist, Arizona State Univ.

Will Donelan, Ph.D. 2012-2014 Research Scientist, University of Florida

Jaclyn Hayner, Ph.D. 2013-2016 Supervisor, ELISA Technologies

### LABORATORY FUNDING HISTORY

**Agency/Title/Years: Direct Costs Awarded**

Michigan Diabetes Research and Training Center, Pilot Study

Funded by NIH (AM-20572), "Characterization of Amino Acid

Transport in Rat Hepatocytes", 1979-1980. $16,246

Faculty Research Program, Division of Sponsored Research,

University of Florida, DSR-23, "Hepatic Amino Acid

Transport", 1980-1981. $14,123

National Institutes of Health, (R01) DK-92062, “Amino Acid

Regulation of Alternative Splicing” 2011-2015, $880,000

National Institutes of Health, (R01) DK-94729, “Amino Acid

Regulation of the FOS/JUN Transcription Factors” 2011-2015, $870,000

National Institutes of Health (NIADDKD), AM-28374, "Hepatic

Amino Acid Transport in Diabetic Animals", 1981-1984. $154,125

American Cancer Society (Florida Division), #F81UF-2,

"Regulation of Rat Liver Amino Acid Transport", 1981-1982. $ 9,800

National Science Foundation, PCM8203748, "Adaptive

Processes for Amino Acid Uptake by Liver Cells", 1982-1984. $35,209

National Institutes of Health (NIADDKD), AM-31580,

 "Adaptive Processes for Amino Acid Uptake by Liver Cells",

1982-1985. $171,968

National Institutes of Health (NIADDKD), AM-28374, "Hepatic

 Amino Acid Transport in Diabetic Animals", 1984-1986. $211,681

Faculty Research Program, Division of Sponsored Research,

University of Florida, "Regulation of Amino Acid Transport In

Liver", 1985-1986 $18,097

National Institutes of Health (NIADDKD), DK-31580, "Adaptive

Processes for Amino Acid Uptake by Liver Cells", 1986-1988. $403,000

National Institutes of Health (NIADDKD), DK-28374, "Hepatic

Amino Acid Transport in Diabetic Animals", 1987-1990. $311,000

Faculty Research Program, Division of Sponsored Research,

University of Florida, "Reconstitution of Human Amino Acid

Transporters", 1988-1989. (Co-P.I. with Dr. Mark Mailliard) $25,000

National Institutes of Health (NIADDKD), DK-31580, "Adaptive

Processes for Amino Acid Uptake by Liver Cells", 1988-1994. $761,563

National Institutes of Health (NIDDKD), DK-28374, "Hepatic

Amino Acid Transport in Diabetic Animals", 1990-1995. $670,337

National Institutes of Health, DK/HD-47836, (Symposium

support) "Nutrient Control of Gene Expression", 1994

(Co-PI with Dr. Steven Clarke, Colorado State University). $12,000

Juvenile Diabetes Foundation International, "Diabetes-Induced

Amino Acid Transporters, Funded, but declined due to overlap

with NIH DK-28374. $99,000

National Institutes of Health, HD-29934 (R01), "Molecular

Mechanisms of Placental Amino Acid Transport", 1993-1997

(Co-P.I. with Dr. Donald Novak, U. F.). $805,558

National Institutes of Health, DK/MH-36555 (R13),

"Transporters of Amino Acids, Peptides, and Bioactive

Amines Meeting", 1997 (P.I., Dr. C. MacLeod, UCSD). $23,660

National Institutes of Health, (T32) DK-07455, "Research

Training in Gastroenterology", 1994-1999, (a preceptor). $731,485

National Institutes of Health (T32) DK-07667, "Research Training

in Nutrition", 1994-1999, (a preceptor). $462,593

National Institutes of Health, DK-28374 (R01), "Hepatic

Amino Acid Transport in Diabetic Animals", 1996-2000. $652,190

National Institutes of Health, DK-52064 (R01), “Nutritional

Control of Asparagine Synthetase”, 1997-2000. $775,768

National Institutes of Health, HD-29934 (R01), "Molecular

Mechanisms of Placental Amino Acid Transport", 1999-2003

(P.I., D. Novak). $1,199,459

National Institutes of Health, (R01), "Fetal Origins of

Adult Disease", 2001-2005 (P.I., D. Novak). $750,000

National Institutes of Health, DK-59315 (R01), “Nutritional

Regulation of Ribosomal Protein Expression”, 2001-2006 $875,000

National Institutes of Health, CA-107437 (R21) “Measuring

Asparagine Synthetase Expression in Leukemia”, 2004-2006

(P.I.: Steve P. Hunger) $180,000

National Institutes of Health, HL-52136 (R37) “Hypoxia Inhibits

L-Arginine Uptake by Lung Endothelium”, 1998-2008,

(P.I.: Edward Block) $2,000,000

National Institutes of Health, DK-52064 (R01) “Nutritional Control

of Asparagine Synthetase”, 2006-2011 $1,117,000

National Institutes of Health, DK-70647-04 (R01) “Nutritional

Control of Transcription Factor Expression”,2006 – 2011 $1,000,000

Ajinomoto Company, “Amino Acid Limitation of Mouse

Embryonic Stem Cells”, 2011-2013, $250,000

National Institutes of Health, DK094729-01 (R01) “Amino Acid

Regulation of the FOS/JUN Transcription Factors”, 2011-2015 $1,250,000

National Institutes of Health, DK092062-01 (R01) “Amino Acid

Regulation of Alternative Splicing”, 2011-2015 $1,250,000

National Institutes of Health, DK79879 (R01) “Autophagy in liver injury”,

9/22/2014-8/31/2019 (P.I., J-S Kim) $1,250,000

National Institutes of Health, CA203565 (R01) “Nutritional Control of

Cancer Cell Function by Amino Acids”, 2015-2020 $1,144,000

National Institutes of Health, HD100576 (R21) “Asparagine Synthetase

Deficiency”, 2020- 2022 $275,000