

Mulchand S. Patel

He is currently working at the Department of Biochemistry University at Buffalo the State University of New York

For many years his research has focused on cellular metabolism. The most important research projects investigated:

1. The structure-function relationships and regulation of the human pyruvate dehydrogenase complex (PDC).
2. Using a PDC-knockout mouse line the importance of glucose metabolism as a source of energy for fetal development as well as the role of PDC in glucose-stimulated insulin secretion by pancreatic beta cells.
3. Diet-induced metabolic programming during early life: (i) the effects of an altered nutrition during the immediate postnatal life on development of adult-onset obesity and (ii) the effects of maternal obesity on fetal programming.

Employment:

1. SUNY Distinguished Professor, State University of New York at Buffalo (2008-present)
2. UB Distinguished Professor, State University of New York at Buffalo (2004-present)
3. Professor, Biochemistry, State University of New York at Buffalo (1993-present)

Professor Patel is also a laureate of many prestigious awards and prizes:

1. Research and Scholarship Award, Research Foundation (2007)
2. The 2007 Pfizer Professorship in Diabetes grant (host) award (2007)
3. Stockton Kimball Award-2004 (2004)
4. Sustained Achievement Award (Outstanding Achievements in Scholarly Activity) (2002)
5. Recognition of Success as a top 100 Federal Grantee Award (2002)

He is the author of many books international publications:

1. Guevara EL, Yang L, Birkaya B, Zhou J, Nemeria NS, Patel MS, Jordan F. Global view of cognate kinase activation by the human pyruvate dehydrogenase complex. *Sci Rep.* 2017; 7.
2. Masini T, Birkaya B, van Dijk S, Mondal M, Hekelaar J, Jäger M, Terwisscha van Scheltinga AC, Patel MS, Hirsch AK, Moman E. Furoates and thenoates inhibit pyruvate dehydrogenase kinase 2 allosterically by binding to its pyruvate regulatory site. *J Enzyme Inhib Med Chem.* 2016; 31(sup4).
3. Mahmood S, Birkaya B, Rideout TC, Patel MS. Lack of mitochondria-generated acetyl-CoA by pyruvate dehydrogenase complex downregulates gene expression in the hepatic de novo lipogenic pathway. *Am J Physiol Endocrinol Metab.* 2016; 311(1).
4. Pliss L, Jatania U, Patel MS. Beneficial effect of feeding a ketogenic diet to mothers on brain development in their progeny with a murine model of pyruvate dehydrogenase complex deficiency. *Mol Genet Metab Rep.* 2016; 7.

5. Liu J, Iqbal A, Raslawsky A, Browne RW, Patel MS, Rideout TC. Influence of maternal hypercholesterolemia and phytosterol intervention during gestation and lactation on dyslipidemia and hepatic lipid metabolism in offspring of Syrian golden hamsters. *Mol Nutr Food Res*. 2016.
6. Rideout TC, Movsesian C, Tsai YT, Iqbal A, Raslawsky A, Patel MS. Maternal Phytosterol Supplementation during Pregnancy and Lactation Modulates Lipid and Lipoprotein Response in Offspring of apoE-Deficient Mice. *J Nutr*. 2015; 145(8).
7. Wang J, Kumaran S, Zhou J, Nemeria NS, Tao H, Kakalis L, Park YH, Birkaya B, Patel MS, Jordan F. Elucidation of the interaction loci of the human pyruvate dehydrogenase complex E2·E3BP core with pyruvate dehydrogenase kinase 1 and kinase 2 by H/D exchange mass spectrometry and nuclear magnetic resonance. *Biochemistry*. 2015; 54(1).
8. Raychaudhuri N, Thamotharan S, Srinivasan M, Mahmood S, Patel MS, Devaskar SU. Postnatal exposure to a high-carbohydrate diet interferes epigenetically with thyroid hormone receptor induction of the adult male rat skeletal muscle glucose transporter isoform 4 expression. *J Nutr Biochem*. 2014; 25(10).
9. Patel MS, Nemeria NS, Furey W, Jordan F. The pyruvate dehydrogenase complexes: structure-based function and regulation. *J Biol Chem*. 2014; 289(24).
10. Patel MS, Srinivasan M, Strutt B, Mahmood S, Hill DJ. Featured Article: Beta cell specific pyruvate dehydrogenase alpha gene deletion results in a reduced islet number and  $\beta$ -cell mass postnatally. *Exp Biol Med (Maywood)*. 2014; 239(8).
11. Mulchand Patel, Korotchkina, L.G., Ali, M.S.. The active site residues in mammalian pyruvate dehydrogenase. *Biochemistry and Physiology of Thiamin Diphosphate Enzymes*, Bisswanger, H. and Schellenberger, A..
12. Mulchand Patel, Korotchkina, L.G., Ali, M.S.. The active site residues in mammalian pyruvate dehydrogenase.. *Biochemistry and Physiology of Thiamin Diphosphate Enzymes*, Bisswanger, H. and Schellenberger, A. (eds.), A.u.C. Intemann, Wissenschaftlicher Verlag, Prien..
13. Mulchand Patel, Hanson, R.W, Reshef, L, Ballard, F.J. The role of pyruvate carboxylin and P-enolpyruvate carboxykinase in adipose tissue. *Regulation of Gluconeogenesis*, H-D.