CURRICULUM VITAE
KAMAL D. MEHTA

Address: Department of Molecular and Cellular Biochemistry
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Positions Held:

2001-present	Associate Professor (tenured), Department of Molecular and Cellular Biochemistry, Ohio State University College of Medicine
1998-2001	Associate Professor (tenured), Department of Biochemistry & Molecular Biology, University of Arkansas College of Mediine (UAMS)
1995-present	Associate member (1995-present), Arkansas Cancer Research Center, Little Rock
1992-1998	Assistant Professor (tenure-track), Department of Biochemistry & Molecular Biology, UAMS

Education and Professional Training:

1987-1992	Instructor in the laboratory of Dr. Joseph L. Goldstein and Dr. Michael S. Brown, Dept. of Molecular Genetics, Univ. of Texas Southwestern Medical Center, Dallas, Texas.
1985-1987	Medical Research Council of Canada Fellow in the laboratory of Dr. Michael Smith, Dept. of Biochemistry, Univ. of British Columbia, Vancouver, Canada.
1980-1985	McMaster University Medical Center, Hamilton, Ontario Ph.D. - Biochemistry/Genetics Thesis: " Genetic and Biochemical Studies with CHO mutants Resistant to the Purine nucleoside analogs: Toyocamycin, Formycin A and Formycin B ".

Academic Distinctions:

1. Established Investigator of the American Heart Association, 1999-2002.
2. "Hornick Endowment Research Award" for prevention of strokes, U.A.M.S., 1997.
3. Elected to serve on the Lipid and Lipoprotein Peer Review Group of the Southern Research Consortium of the American Heart Association (Southern-affiliate) for 1997 research grant session.
4. "Irvine H. Page Young Investigator Award" American Heart Association (1995) (Finalist).
5. Selected Judge to grade U.A.M.S. poster presentation by Graduate students/Post-doctoral fellows (1994).
6. "Ed-Harms Family Reasearch Award" of U.A.M.S. Medical research Endowment Fund (1993).
7. Awarded postdoctoral fellowship from the Medical Research Council of Canada, Ottawa (1985-1987).
8. Passed Ph.D. Comprehensive examination with Distinction (1983).
9. Awarded Research and Teaching Fellowship of the Department of Biochemistry, McMaster University, Hamilton, Ontario, Canada (1980-1985).
10. Awarded Junior Research Fellowship of the Council of Scientific and Industrial Research, New Delhi, as well as from the Centre of Advanced Studies, University of Delhi (1978-1980).
11. First position in M. Phil. Chemistry (among 28 students). Awarded M. Phil. degree with distinction.
12. First position in University of Delhi in M.Sc. Chemistry (among 105 students).

Professional Memberships:

1. American Society of Biochemistry & Molecular Biology.
2. American Society for the Adcancement of Science.
3. American Heart Association

Present Research Grant:

1. Role of Protein Kinase C and MAP Kinases in LDL Receptor Induction (AHA #9940193). Established Investigator Grant, American Heart Association (National) **P. I.**, 25% effort, 01/01/1999 - 12/31/2003, $330,000.

2. Signaling and Mechanisms of LDL Receptor Induction. National Institutes of Health (HL65540-06), **P. I.**, 20% effort, 8/1/2001 - 7/31/2006, $1,062,877.

Pending Research Proposal:

Mechanisms of p42/44^{MAPK}-induced LDL Receptor Expression. National Institutes of Health, P. I., 20% effort, 8/1/2001-7/31/2006, Direct cost $1,012,375 (scored 32 percentile recently).

Past Research Grants:

1. Mechanism of sterol regulation of LDL receptor gene. National Institutes of Health, (Ranked 2.2 percentile in February/March 1994 Physiological Chemistry Study Section) P. I., 50% effort, 09/01/94 - 08/30/00 (with administrative extension), $500,916.

2. Purification and Cloning of Nuclear Factor(s) Binding to FP1-element of human LDL receptor promoter. Hornick Endowment Award of U.A.M.S., P. I., 10% effort, 8/1/1997-8/31/1998.

3. Glomerular matrix degrading metalloproteases. National Institutes of Health, Co P. I., 15% effort, 4/1/1994-3/31/1998, $875,967.

4. Understanding mechanism of negative regulation of squalene synthetase gene by sterols. American Heart Association (National), 20% effort, 7/1/1994-6/30/1997.

5. In Vivo footprinting of genes involved in the cholesterol biosynthetic pathway. American Heart Association (Arkansas affiliate) P. I., 15% effort, 7/1/1993-6/31/1995, $55,000.

6. Protein-DNA interactions in the promoter region of human LDL receptor gene. Arkansas Science and Technology Agency, 10% effort, 2/1/1993-1/31/1995, $47,500.

7. In vivo footprinting of LDL receptor gene. U.A.M.S. Medical Research Endowment. P. I., 10% effort, 8/1992-7/1993.

8. Transcriptional regulation of an anaerobic gene (ANB1). Medical Research Council of Canada postdoctoral fellowship. $54,000, 8/1985-7/1987.
9.

Invited Speaker (1994-2001):

1. Department of Molecular Medicine, Medical College of Ohio, "Molecular Mechanism of Sterol Regulation of Gene Expression", August, 1994.
2. Department of Biochemistry & Molecular Biology, University of Mississippi MedicalSchool, "Identification of A Novel cis-acting Element in Human LDL Receptor Gene Promoter", May, 1995.
3. Department of Microbiology, U.A.M.S., "Molecular Mechanism of Sterol Regulation of Human LDL Receptor Expression", July, 1995.
4. American Heart Association, 68th Scientific Sessions, "In Vivo Footprinting of Human LDL Receptor Gene Promoter", November, 1995.
5. Arkansas Cancer Research Center, U.A.M.S., "Ras/Cholesterol Connection", November, 1995.
6. Department of Atherosclerosis and Lipid Metabolism, Research Institute, Palo Alto Medical Foundation, "Mechanism of Sterol Regulation of Human LDL Receptor Gene", November, 1995.

7. Department of Biochemistry and Molecular Biology, U.A.M.S., "Understanding Regulation of Two Genes Involved in Cholesterol Metabolism: LDL Receptor and Farnesyltransferase", April, 1996.
8. Arkansas Cancer Research Center, Division of Hematology/Oncology, U.A.M.S, "Identification of A Novel Regulatory Element in Human LDL Receptor Gene: Target for Better Treatment of Hypercholesterolemia", March 10, 1997.
9. Michael Smith Symposium, University of British Columbia, Vancouver, April 25-27, 1997.
10. Department of Pediatrics, Arkansas Childrens Hospital, U.A.M.S., "Signaling and Mechanisms of Induction of LDL Receptor Expression", May 7, 1998.
11. Department of Pathology, University of Cincinnati College of Medicine, "Mechanisms Regulating LDL Receptor Expression in Hepatic Cells"' June 28, 1998.
12. Department of Pharmaceutical Sciences, U.A.M.S., "Role of MAP Kinases in Controlling LDL Receptor Expression", November 11, 2000.
13. Department of Biochemistry, U.A.M.S., "Signaling Cascades Controlling LDL Receptor Expression in Hepatic Cells", January 18, 2000.
14. Department of Nutrition, University of California School of Medicine, Davis "Signaling and Mechanisms of Induction of LDL Receptor Expression", April 11, 2001.
15. Department of Biochemistry and Molecular Biology, Uniformed Services Medical College, Bethesda, "Role of MAP Kinases in the Regulation of LDL Receptor Expression"' August 15, 2001.

Abstracts (1993-2001):

1. Atkins, B. A., and **Mehta, K. D.** (2001) Role of endogenous calcium in regulating sterol-mediated LDL receptor regulation. FASEB Research Conference, July 7-12, 2001, Snowmass Village, CO.

2. Atkins, B. A., and **Mehta, K. D.** (2001) Participation of calcium activated pathways in sterol-resistant induction of LDL receptor expression in hepatic cells. U.A.M.S. Research Day, April 3, 2001, Little Rock.

3. **Mehta, K. D.**, Atkins, B. A., and Kapoor, G.S. (2000) High intensity p42/44^{MAPK} cascade uncouples LDL receptor induction from cell growth. American Soc. of Biochem. & Mol. Biol.June 4-8, 2000, Boston, MA.

4. Dhawan, P., McMahon, M., and **Mehta, K. D.** (1999) LDL receptor expression is regulated positively by the p42/44MAPK pathway in hepatic cells. Experimental Biology' 99, April 17-21, 1999, Washington D. C.

5. Dhawan, P., and **Mehta, K. D.** (1998) Point mutational analysis of FP1 site in human LDL receptor promoter. U.A.M.S. Research Day, April 2, 2001, Little Rock.

6. Kumar, A., Beresini, M.H., and **Mehta, K. D.** (1996) Phosphorylation of ß-subunit of p21^{ras} farnesyl-transferase in vivo: Participation of phosphorylated subunits in functionally active heterodimer formation. 6th International Congress on Cell Biology, December 7-11, 1996, San Francisco, CA.

7. Tanimoto, H., **Mehta, K. D.**, Parmley, T.S., K. Parham, G., and O'Brien, T. (1996) Expression of farnesyl-transferase gene in human ovarian carcinoma: Correlation to K-RAs mutations. Western Association of Gynecologic Oncologist, 24th Annual Meeting, May 29-June 2, 1996, San Diego, CA.

8. **Mehta, K. D.**, and Chang, R. (1995) In vivo footprinting of human LDL receptor gene promoter: Implication for sterol regulation of gene expression. 68th Scientific sessions, November 13-16, 1995, Anaheim, CA.

9. **Mehta, K. D.**, and Chang, R. (1994) Cloning and sequence of shark LDL receptor cDNA. 16th International Congress of Biochemistry & Molecular Biology, September 19-22, 1994, New Delhi, India.

10. **Mehta, K. D.** (1993) In vivo role of Sp1 site neighboring SRE-1 in controlling levels of LDL receptor. American Society for Biochemistry and Molecular Biology Meeting, May 30 - June 3, 1993, San Diego, CA.

Patents:

1. **Mehta, K. D.** (1996) "Novel cis-acting element in the human LDL receptor promoter and uses thereof" (US Patent# 5879,879; (195-05) issued on 3/9/1999).

2. Singh, R. P., and **Mehta, K. D.** (1998) "Application of novel compounds in the treatment of hypercholesterolemia" (US patent application # 09/539,584 applied on 3/31/2000.

3. **Mehta, K. D.** (2000) "Application of activators of p42/44^{MAPK} in the treatment of hypercholesterolemia" (US Patent application # 60/229,271 applied on 8/30/2000).

Publications:

1. Kapoor, G. S., Atkins, B. A., and **Mehta, K. D.** (2002) CBP-dependent induction of p42/44^{MAPK}-induced LDL receptor expression in HepG2-?Raf-1:ER cells. Manuscript is being submitted to **Biochemistry.**

2. **Mehta, K. D.** (2002) Role of growth-responsive p42/44^{MAPK} in the regulation of LDL receptor expression. **CRC Critical Reviews of Oncogenesis** (Invited review article in preparation).

3. **Mehta, K. D.**, Kapoor, G. S., Radominska-Pandya, A., Atkins, B. A. and Dave, B. (2002) Critical role of diacylglycerol and phospholipid-regulated protein kinase C? in sterol-regulated LDL receptor expression. Manuscript submitted to **Mol. Cell. Biol.**

4. **Mehta, K. D.** (2002) Role of MAP kinases in regulating LDL receptor expression. In Pandalai, S. G. eds. **Recent Research Developments in Lipid Research**. In Press.

5. **Mehta, K. D.**, Atkins, B. A. and Kapoor, G. S. (2002) Activation of p42/44^{MAPK} is sufficient to uncouple LDL receptor expression from cell growth. **Mol. Cell. Biochem.** In Press.

6. Mehta, K.D. and Miller, L. (2000) Inhibition of stress-activated p38 mitogen-activated protein kinase induces LDL receptor expression. **Trends in Cardiovascular Med.** 9(7): 201-205.

7. Singh, R.P., Dhawan, P., Golden, C., Kapoor, G. S. and **Mehta, K.D.** (1999) Inhibition of stress activated p38^{MAPK} ?-isoform induces LDL receptor expression through activation of p42/44^{MAPK} cascade. **J. Biol. Chem.** 274: 19593-19600.

8. Dhawan, P., Bell, A., Kumar, A., Golden, C. and **Mehta, K.D.** (1999) Critical role of p42/44^{MAPK} activation in anisomycin and hepatocyte growth factor induced LDL receptor expression in HepG2 cells. **J. Lipid Res.** 40: 1911-1919**.**

9. Kumar, A., Middleton, A., Chambers, T. C. and **Mehta, K. D.** (1998) Differential roles of ERK-1/2 and p38^{MAPK} in interleukin-1ß and tumor necrosis factor-? induced LDL receptor expression in HepG2 cells. **J. Biol. Chem.,** 273: 15742-15748**.**

10. Dhawan, P., Yang, E., Kumar, A. and **Mehta, K. D.** (1998) Genetic complexity of the human geranylgeranyltransferase I ß-subunit gene: a multigene family of pseudogenes derived from mis-spliced transcripts. **Gene** 210: 9-15.

11. Kumar, A., Chambers, T., Cloud-Heflin, B. A. and **Mehta, K. D.** (1997) Phorbol ester-induced LDL receptor gene expression in HepG2 cells involves protein kinase C-mediated p42/44 MAP kinase activation. **J. Lipid Res.**: 38 (10), 2240-2248.

12. Dhawan, P., Chang, R. and **Mehta, K. D.** (1997) Identification of essential nucleotides of FP1 element responsible for enhancement of low density lipoprotein receptor gene transcription. **Nucleic**

Acids Res., 25 (20): **4132-4138**.

13. Kumar, A. and **Mehta, K. D.** (1997) p21^{ras} farnesyltransferase contain phosphorylated ? /ß-heterodimer: Presence of differentially phosphorylated ß-subunit in particulate and soluble fractions. **Neurosci. Letter**, 231**:** 143-146.

14. Tanimoto, H., **Mehta, K. D.**, Parmley, K. S., Graham, G. P., Clarke, J. and O'Brien, T. J. (1997) Expression of the farnesyltransferase gene in human ovarian carcinoma: Correlation to K-ras mutation. **Gynecologic Oncology**, 66: 308-312.

15. **Mehta, K. D.**, Chang, R., Underwood, J., Wise, J. and Kumar, A. (1996) Identification of a novel cis-acting element participating in maximal induction of human LDL receptor gene transcription in response to low cellular sterols. **J. Biol. Chem.** 271**:** 33616-33622.

16. **Mehta, K. D.**, Chang, R. and Norman, J. (1996) Chiloscyllium plagiosum low density lipoprotein receptor cDNA sequence: Evolutionary conservation of five different functional domains. **J. Mol. Evol**. 42: 264-272.

17. Kumar, A., Beresini, M. and **Mehta, K. D.** (1996) ? -Subunit of farnesyltransferase is phosphorylated in vivo: Effect of protein phosphatase-1 on activity. **Biochem. Biophys. Res. Commun**. 222: 445-452.

18. Chang, R., Yang, E., Chamblis, D., Kumar, A., Wise, J. and **Mehta, K. D.** (1996) In vivo role of Sp1 site neighboring SRE-1 in controlling levels of low density lipoprotein receptor. **Biochem. Biophys. Res. Commun**. 218: 733-739.

19. Drach, J., Lopez-Berestein, G., McQueen, T., Andreef, M., and **Mehta, K. D.** (1994) Induction of differentiation in myeloid leukemia cell lines and acute promyelocytic leukemia cells by liposomal all-trans-retinoic acid. **Cancer Res.** 53: 2100-2109.

20. **Mehta, K. D.**, Brown, M., Bilheimer, D. W. and Goldstein, J. L. (1991) The low density lipoprotein receptor in Xenopus laevis : II Feedback repression mediated by conserved sterol regulatory element. **J. Biol. Chem.** 266 (16): 10415-10420.

21. **Mehta, K. D.**, Chen, W., Goldstein, J. L. and Brown, M. (1991) The low density lipoprotein receptor in Xenopus laevis : I Five domains that resemble the human receptor. **J. Biol. Chem.** 266 (16): 10406-10414.

22. **Mehta, K. D.**, Leung, D., Lefebvre, L. and Smith, M. (1990) The ANBI locus of the Saccharomyces cerevisiae encodes the protein synthesis initiation factor-4D. **J. Biol. Chem.** 265 (15): 8802-8807.

23. **Mehta, K. D.** and Smith, M. (1989) Identification of an upstream repressor site controlling the expression of an anaerobic gene (ANB1) in Saccharomyces cerevisiae. **J. Biol. Chem.** 264 (15): 8670-8675.

24. Gupta, R. S. and **Mehta, K. D.** (1987) Genetic and biochemical characteristics of three different types of mutants of Chinese hamster ovary cells affected in adenosine kinase. In: **Purine and pyrimidine metabolism in man**, Nyhan, W.L., Thompson, L.F. and Watts, R.W.E., ed., p. 594-604, Plenum Press: New York.

25. Gupta, R. S. and **Mehta, K. D.** (1986) Immunological studies with different classes of mutants at the adenosine kinase locus in CHO cells. **Som. Cell. Mol. Genet.** 12 (3): 265-274.

26. **Mehta, K. D.** and Gupta, R. S. (1986) Novel mutants of CHO cells resistant to adenosine analogs and containing biochemically altered form of adenosine kinase in cell extracts. **Som. Cell. Mol. Genet.** 12 (1): 21-31.

27. **Mehta, K. D.** and Gupta, R. S. (1985) Chinese hamster ovary cell mutants specifically affected in the phosphorylation of C-purine nucleosides. **Can. J. Biochem. Cell Biol.** 63 (9): 1044-1048.

28. **Mehta, K. D.** and Gupta, R. S. (1985) Involvement of AK in the phosphorylation of formycin B. **Biochem. Biophys. Res. Comm.** 130 (2): 910-917.

29. Gupta, R. S. and **Mehta, K. D.** (1984) Genetic and biochemical studies on mutantsof CHO cells resistant to 7-deazapurine: Differences in the mechanisms of action of toyocamycin and tubercidin. **Biochem. Biophys. Res. Comm.** 120 (1): 88-95.

30. **Mehta, K. D.** and Gupta, R. S. (1983) Formycin B-resistant mutants of Chinese hamster ovary cells: A novel genetic and biochemical phenotype affecting adenosine kinase. **Mol. Cell. Biol.** 3 (8): 1468-1477.

31. Ahluwalia, V. K., Prakash, C., **Mehta, K. D.** and Singh, R. P. (1980) A convenient synthesis of Pinnatin. **Int. J. Chemistry** 19B: 1081-1082.

Ad hoc Reviewer:

National Science Foundation
American Heart Association (Southern Consortium)
Fonds zur Forderburg der wissenschaftlichen Forschung, Germany
Wellcome Trust, U.K.
V. A. Merit Award
Journal of Immunology
Kidney International
Journal of Neurochemistry
Journal of Biological Chemistry
Lipids

Contributions to Departmental Teaching at UAMS:

Genetic Biochemistry (Eukaryotic transcription, RNA modification, Splicing): 1993-present; Course Director, 1998-present.

Graduate student seminar (Graduate level seminar course that focuses on the skills necessary to present scientific literature): Course Director, 1997-present.

Recent Advances in Human Genetic Diseases (Genetic basis of Diabetes, Obesity, Osteoporosis, Lipid disorders, and cancer) (Special topics) Course Director, 1998.

Medical Biochemistry (Fatty acids biosynthesis and oxidation, Cholesterol biosynthesis, and Lipid metabolism): 1996-present

Methods in Molecular Biology (Techniques for studying protein-DNA interactions): 1993, 2001

Integrative Biochemistry (Molecular biology of lipoprotein disorders): 1994, 1995

Departmental Service:

Graduate Education Committee (GEC), Member, 1993-2000.
GEC-subcommittee on course curriculum, 1993-present.
Department Teaching Evaluation Committee, 1998-2000.
Department Promotion & Tenure Committee, (1998-present)

Former Trainees:

Post-doctoral Students:

Dr. John Davies	Scientist, Imperial Cancer Research Fund, (London)
Dr. Ruixin Chang	Residency, University of South Carolina (South Carolina)
Dr. Amit Kumar	Staff Scientist, National Institutes of Health (Maryland)
Dr. Rajesh Singh	Chairman, Dept. of Biotechnology, University of Roorki (Sabatical) (Roorki)
Dr. Lance Miller	Scientist, Merck Pharmaceuticals (Rahway, N. J.)
Dr. G. S. Kapoor	Research Associate, Univ. of Pennsylvania Medical School (Pennsylvania)
Dr. Sushil Gupta	Research Associate, Arkansas Cancer Research Center, University of Arkansas for Medical Sciences

Graduate Students:

Punita Dhawan (1999)	Postdoctoral Associate at Vanderbilt University School of Medicine (Nashville, TN)
Brett Atkins (2001)	Law School; University of San Diego (San Diego, CA)

References:

1. Dr. Lyndal York, Professor
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3. Dr. Joseph L. Goldstein
Professor and Chairman
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University of Texas Southwestern Medical Center

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4. Dr. Radhey S. Gupta, Professor
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