# CURRICULUM VITAE

## Ashok B. Kulkarni, PhD

## EDUCATION

| | |
|---|---|
| 1969-1971 | MS, Biochemistry, Maharaja Sayajirao University, Baroda, India |
| 1971-1981 | PhD, Biochemistry, Haffkine Institute, Bombay and Maharaja Sayajirao University, Baroda, India |

## EMPLOYMENT HISTORY

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|---|---|
| 1995-present | Senior Investigator and Chief, Functional Genomics Section, Laboratory of Cell and Developmental Biology, and Manager, Gene Targeting Facility, NIDCR, NIH, Bethesda, MD |
| 1987-1995 | Senior Staff Fellow, Developmental and Metabolic Neurology Branch, NINDS, NIH, Bethesda, MD |
| 1982-1987 | Postdoctoral Fellow and Senior Research Associate, Department of Biochemistry, College of Physicians and Surgeons, Columbia University, New York, NY |
| 1976-1982 | Scientific Officer, Biochemistry Department, Haffkine Institute, Bombay, India |

## HONORS AND AWARDS

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| 1993 | Henry Christian Award<br>American Federation for Clinical Research and Merck Foundation |
| 1998 | NIDCR Award for Outstanding Contributions to the Programs and Objectives of NIDCR, National Institutes of Health |
| 1998 | NIH Award in recognition of ten years of service to National Institutes of Health |
| 1999 | NCRR, NIH Award in recognition of contributions to the Scientific and Technical Review Board on Biomedical and Behavioral Research Facilities, National Institutes of Health |
| 2004 | NIDCR, NIH EEO Diversity Special Achievement Award, National Institutes of Health |
| 2005 | Award in recognition of a review of transgenic technology |
| | Patent and Trade Office, Department of Commerce |
| 2007 | NIH Award in recognition of twenty years of service to NIH |

## EDITORIAL RESPONSIBILITIES AND JOURNAL REVIEWING ACTIVITIES

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| 2004-present | Editorial Board Member, Journal of Dental Research |

2010-present Editorial Board Member, Neurochemical Research

**Ad hoc Reviewer for Scientific Journals**

*BBRC, Bioessays, Biotechnology Journal, Cancer Research, Cytokine, DNA and Cell Biology, Drug Metabolism, FASEB Journal, Head and Neck, Hepatology, J. Biological Chemistry, J. Contemporary Dental Practice, Journal of Dental Research, Journal of Immunology, Journal of Leukocyte Biology, Journal of Neurochemistry, Journal of Neuroscience, Immunology, Kidney International, Matrix Biology, Nature Genetics, Neuroscience, Neuroscience Letters, The Proceedings of the National Academy of Sciences, USA*

**INVITED PRESENTATIONS (SELECTED)**

1987 Acute phase mediated induction of alpha 1 acid glycoprotein expression, FDA, Bethesda, MD

1987 Acute phase induction of alpha 1-acid glycoprotein gene expression, Monsanto, St. Louis, MO

1987 Transcriptional control of rat hepatic gene expression, DMNB, National Institute of Neurological Disorders and Stroke, NIH, Bethesda, MD

1992 Mouse chimeras with a disrupted TGF-ß1 gene obtained by gene targeting, American Federation of Clinical Research, Clinical Meeting, Baltimore, MD

1992 Homozygous TGF-ß1 null mice are runted and die within a few weeks, Mouse Molecular Genetics Meeting, Cold Spring Harbor Lab, Cold Spring Harbor, NY

1992 TGF-ß1 null mouse, National Eye Institute, NIH, Bethesda, MD

1992 TGF-ß1 null mutation in mice causes excessive inflammatory response and early death, National Institute of Digestive Diseases and Kidney, NIH, Bethesda, MD

1993 Targeted disruption of the murine TGF-ß1 gene results in multifocal inflammation and early death, National Institute of Allergy and Infectious Diseases, NIH, Bethesda, MD

1993 Gene targeting and knock-out mice: A technical challenge, National Institute of Dental Research, NIH, Bethesda, MD

1993 TGF-ß1 null mutation in mice causes excessive inflammation and early death, AFCR, Washington, D.C.

1993 TGF-ß1 knockout mice have a multifocal inflammatory disease and die early, NIH Research Festival Workshop, NIH, Bethesda, MD

1994 TGF-ß1 knockout mice: Pathology and immune dysregulation, FDA, Bethesda, MD

1994 TGF-ß1 knockout mice: maternal rescue, National Institute of Child Health and Diseases, NIH, Bethesda, MD

1995 TGF-ß1 knockout phenotype, Michigan State University, East Lansing, MI

1995 Phenotypic analysis of TGF-ß1 knockout mice, Wayne State University, Detroit, MI

1996 Autoimmune manifestations in TGF-ß1 knockout mice, British Society of Immunology Annual Meeting, Brighton, UK

1996 Partial rescue of TGF-ß1 null lethal phenotype in ß2-microglobulin deficient background, Cytokine Interest Group, NIH, Bethesda, MD

1996 TGF-ß1 Null mouse: Isoform specific functions, British Society of Allergy and Clinical Immunology, Manchester, United Kingdom

1997 Knockout mice: new biology, Symposium on Molecule to Behavior, Bangalore, India

1997 Abnormal Brain Development in Cdk5 Knockout Mice, Fourth International Symposium on Brain Dysfunction, Troina, Italy

1997 Generation of Fabry Mouse Model and Gene Therapy Approaches, Gene Therapy Institute, University of Lund, Lund, Sweden

1997 TGF-ß1 Knockout Mouse: A Model for Immune Dysregulation, University of Maryland, Baltimore, MD

1998 India Organized hands-on-workshop on Production of Knockout Mice, Cancer Research Institute, Bombay,

1998 Organized Lunch and Learn Session on Animal Modeling to Study Biology of Dental and Skeletal Systems, American Association of Dental Research (AADR) Meeting, Minneapolis, MN

1998 Temporal and spatial expression of DSPP-LacZ transgene, School of Dental Medicine, University of Pennsylvania, Philadelphia, PA

2000 TGF-ß1 null mouse phenotype, National Cancer Center, Tokyo, Japan

2000 Cdk5 conditional knockout mice display ALS-like phenotype, National Institute of Neuroscience, Tokyo, Japan

2000 Cdk5 conditional knockout mice, Trans-NIH Neurobiology Interest Group, NIH, Bethesda, MD

2000 Organized hands-on-workshop on “Production of Transgenic and Knockout Mice” National Institute of Immunology, New Delhi, India

2001 Reviewer for NIST Advanced Technology Program, Gaithersburg, MD

2002 Molecular Characterization of amelogenesis and dentinogenesis, University of Toronto Dental School, Toronto, Canada

2002 Functional genomics approach to study tooth development and disease, Canadian Institute of Health Research, University of Toronto, Toronto, Canada

2002 Novel therapeutic approaches for Fabry disease using Fabry mouse model, 26th Annual Meeting of Indian Society of Cell Biology, Mumbai, India

2002 Functional genomics: a gold standard for in vivo gene function, National Centre for Cell Sciences, Pune, India

2002 Role of Cdk5 in neurodegenerative diseases, National Institute of Mental and Health and Neurosciences, Bangalore, India

2002 Molecular characterization of tooth development and disease, Trivendrum Dental and Medical College, Trivendrum, India

2002 Invited speaker (Functional genomics studies on genetic disorders) M. S. University, Vadodara, India

2002 Elevated levels of globotriaosylceramide in salivary glands of Fabry mice, 80th Annual Meeting of Int. Association of Dental Research, San Diego, CA

2002 TGF-ß1 negatively regulates crystalline expression in teeth, 80th Annual Meeting of International Association of Dental Research, San Diego, CA

2003 Novel crystalline expression in murine teeth, National Eye Institute, NIH, Bethesda, MD

2003 Functional genomic approaches to study tooth development and disease, National Institute of Neurological Diseases and Stroke, NIH, Bethesda, MD

2003 Functional genomic study of tooth development and disease, National Institute of Standards and Technology, Gaithersburg, MD

2003 Cdk5 in brain development and disease, Cornell University, New York City, NY

2003 ECM in tooth development and disease, NICHD ECM Club, NIH, Bethesda, MD

2004 Cdk5 and Neurodegeneration, Nathan Kline Institute, New York University School of Medicine, Orangeburg, NY

2005 TGF- ß and cancer, University of Texas Health Science Center, San Antonio, TX2006Cdk5: a key player brain development and disease, University of Otago, Dunedin, New Zealand

2006 Amelogenins: Do they have roles outside of enamel? University of Otago Dental School, Dunedin, New Zealand

2007 Cdk5: from brain to pain, Croucher Symposium, The Hong Kong University of Science and Technology, Hong Kong

2008 Cdk5: Key regulator in pain signaling, The University of Maryland Dental School, Baltimore, MD

2008 DSPP: Key regulator in dentin mineralization), The State University of New York-Buffalo Dental School, Buffalo, NY

2009 Role of TGF-beta signaling in HNSCC at Kyoto University, Kyoto, Japan

Molecular Roles of Cdk5 in neurodegeneration and pain signaling, Kyoto University, Kyoto, Japan

Context dependent roles of TGF-beta in inflammation, fibrosis and cancer, Waseda University, Tokyo, Japan

Cdk5 in pain signaling, Cdk5 Symposium, Tokyo, Japan

Molecular roles of Cdk5 in neuronal functions, XXIII Annual Meeting of Chilean Society of Cell Biology, Pucon, Chile

Cdk5: Neurodegeneration and Nociception, the University of Chile, Santiago, Chile

2010 Context dependent roles of TGF-beta in craniofacial development and disease, Boston University Dental School, Boston, MA

Context dependent roles of TGF-beta, the TGF-beta Interest Group Meeting, NIH, Bethesda, MD

Engineering Mouse Models, SIBLINGs and Dental Pathologies, IADR Meeting, Barcelona, Spain

**EXTRAMURAL ACTIVITIES**

Grant Reviewer for Austrian Science Fund

Grant Reviewer for Gaucher Research Foundation

Grant Reviewer for NCRR C-06 AND G-20 Core Grants

Grant Reviewer for NIST Advanced Technology Program

Grant Reviewer for Sick Children's Hospital, Toronto, Canada

Grant Reviewer for Veteran's Administration Hospital Fund

Speaker at US PTO Seminar Series

Grant Reviewer for Wellcome Trust

Grant Reviewer for the Weizmann Institute

**MEMBERSHIP IN PROFESSIONAL SOCIETIES**

American Association of Cancer Research

American Association of Dental Research

International Association of Dental Research

Society for Neuroscience

**INTRAMURAL ACTIVITIES OUTSIDE THE NIDCR DIR**

1996-1999 Member, Science and Technology Review Board on Biomedical and Behavioral Research Facilities, NCRR, NIH

1998-2003 Trans-NIH Mouse Genetics Priorities Setting Committee

1998-2003 Trans-NIH Rat Repository Committee

1999-2004 NIH ARAC Committee

1999-2003 Trans-NIH Non-mammalian Genome Initiative Committee

1999-2002 NIH Vivarium Planning Committee

2003-present NIH ECM Club

2003-present NIH Mouse Club

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| 2004-present | Neuroscience Interest Group |
| 2004-present | Pain Interest Group |
| 2005-present | NIH FARE Abstract Review Committee |
| 2010-present | TGF-beta Interest Group |
| 2011 | Member, NIH OIR Research Misconduct Inquiry Committee |

**ACTIVITIES WITHIN THE NIDCR DIR**

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| 1994-1997 | Supervisor, Howard Hughes Medical Institute (HHMI) Summer Intern |
| 1995-present | Manager, Gene Targeting Facility, NIDCR-DIR |
| 1995-present | Mentor for Summer Interns from numerous dental medical, undergraduate and high schools |
| 1997-1998 | Search Committee, Staff Scientist Position in OIIB, NIDCR |
| 1997-1998 | NIDCR Animal Care and Use Committee |
| 1997-2004 | NIDCR Cellular Imaging Core Oversight Committee |
| 1997-present | NIDCR Animal Care Unit Oversight Committee |
| 1999 | Search Committee, Staff Scientist Position in OPCB, NIDCR |
| 1999-2004 | Chair, NIDCR Animal Care and Use Committee |
| 2006 | Hosted hands-on workshop for students of Advanced Biotechnology Institute |
| 2007 | NIDCR Search Committee for Animal Program Director |
| 2007-2010 | NIDCR Summer Dental Student Application Review Committee |
| 2011 | NIDCR Search Committee for Animal Program Director |
| 2011 | NIDCR Search Committee for Technology Development Specialist |

**BIBLIOGRAPHY**

**Peer-reviewed research articles**

1. Rajalakshmi R, Kulkarni AB, Ramakrishnan CV. 1974. Effects of pre-weaning and post-weaning undernutrition on acetylcholine levels in rat brain. J Neurochem. 23(1):119-121
2. Gosavi AV, Renapurkar DM, Kulkarni AB. 1978. Oxygen uptake studies on H. diesingi, Leidy. Bulletin of Haffkine Institute (Bombay). 6:73-78
3. Gosavi AV, Renapurkar DM, Kulkarni AB. 1979. Effects of ascorbic acid on oxygen uptake of H. diesingi, Leidy. Bulletin of Haffkine Institute (Bombay). 7:7-11
4. Gosavi AV, Renapurkar DM, Kulkarni AB. 1980. Effects of ascorbic acid on in vitro cultivation of H. diesingi, Leidy. Bulletin of Haffkine Institute (Bombay). 8:15-20

5. Kulkarni AB, Gaitonde BB. 1980. Thiamin levels in the brain regions of the thiamin deficient rats. Bulletin of Haffkine Institute (Bombay). 7:71-74

6. Gosavi AV, Renapurkar DM, Kulkarni AB. 1981. Effects of coconut milk on the embryonic development of H. diesingi, Leidy. Biovigyanam. 7:187-189

7. Kulkarni AB, Deshpande JM, Sharma KD, Bapat RD, Kinare SG, Shirodkar MV. 1981. Hepatic superoxide dismutase activity in normal and hepatitis B-virus infected langur monkey. IRCS Med Sc Biochemistry. 9:608

8. Kulkarni AB, Gaitonde BB. 1981. Effects of maternal protein deficiency on brain maturation of rat progeny. Bulletin of Haffkine Institute (Bombay). 9:69-74

9. Kulkarni AB, Ved HS, Gaitonde BB. 1981. Effects of postweaning prolonged protein deficiency on rat brain enzymes. Bulletin of Haffkine Institute (Bombay). 9:47-50

10. Kulkarni AB, Ved HS, Ramakrishnan P, Pradhan P, Renapurkar DM, Sharma KD. 1981. Studies on superoxide dismutase and catalase activities in different tissues of rat infected with P. berghei. Bulletin of Haffkine Institute (Bombay). 9:29-33

11. Kulkarni AB, Gaitonde BB. 1982. Effects of early undernutrition and subsequent rehabilitation on acetylcholine levels in rat brain. Experientia. 38(3):377-378

12. Kulkarni AB, Bhopale MK, Sharma KD. 1983. Pulmonary superoxide dismutase activity in the mouse infected with Ancylostoma caninum larvae. J Helminthol. 57(3):237-239

13. Kulkarni AB, Gaitonde BB. 1983. Effects of early thiamin deficiency and subsequent rehabilitation on the cholinergic system in developing rat brain. J Nutr Sci Vitaminol (Tokyo). 29(2):217-225

14. Gubits RM, Lynch KR, Kulkarni AB, Dolan KP, Gresik EW, Hollander P, Feigelson P. 1984. Differential regulation of alpha 2u globulin gene expression in liver, lachrymal gland, and salivary gland. J Biol Chem. 259(20):12803-12809

15. Kulkarni AB, Renapurkar DM, Sharma KD. 1984. Hepatic superoxide dismutase activity in the mouse infected with Plasmodium berghei. Folia Parasitol (Praha). 31(1):89-91

16. D'Souza NB, Kulkarni AB, Baxi AJ, Nadkarni GD. 1985. Enzymatic defense against oxygen toxicity in D-galactosamine-induced hepatitis in rats. Indian J Gastroenterol. 4(2):87-88

17. Kulkarni AB, Gubits RM, Feigelson P. 1985. Developmental and hormonal regulation of alpha 2u-globulin gene transcription. Proc Natl Acad Sci U S A. 82(9):2579-2582

18. Kulkarni AB, Reinke R, Feigelson P. 1985. Acute phase mediators and glucocorticoids elevate alpha 1-acid glycoprotein gene transcription. J Biol Chem. 260(29):15386-15389

19. Dhar VN, Miller DA, Kulkarni AB, Miller OJ. 1987. Human ribosomal DNA fragments amplified in hamster cells are transcribed only by RNA polymerase II and are not silver stained. Mol Cell Biol. 7(3):1289-1292

20. D'Souza NB, Kulkarni AB, Nadkarni GD. 1987. Effect of egg as a sole diet on hepatic lipid peroxidation and related defence system in the rat.
Indian J Biochem Biophys. 24(2):111-113

21. Kulkarni AB, Huh CG, Becker D, Geiser A, Lyght M, Flanders KC, Roberts AB, Sporn MB, Ward JM, Karlsson S. 1993. Transforming growth factor beta 1 null mutation in mice causes excessive inflammatory response and early death. Proc Natl Acad Sci U S A. 90(2):770-774

22. Geiser AG, Letterio JJ, Kulkarni AB, Karlsson S, Roberts AB, Sporn MB. 1993. Transforming growth factor beta 1 (TGF-beta 1) controls expression of major histocompatibility genes in the postnatal mouse: aberrant histocompatibility antigen expression in the pathogenesis of the TGF-beta 1 null mouse phenotype. Proc Natl Acad Sci U S A. 90(21):9944-9948

23. Glick AB, Kulkarni AB, Tennenbaum T, Hennings H, Flanders KC, O'Reilly M, Sporn MB, Karlsson S, Yuspa SH. 1993. Loss of expression of transforming growth factor beta in skin and skin tumors is associated with hyperproliferation and a high risk for malignant conversion. Proc Natl Acad Sci U S A. 90(13):6076-6080

24. Christ M, McCartney-Francis NL, Kulkarni AB, Ward JM, Mizel DE, Mackall CL, Gress RE, Hines KL, Tian H, Karlsson S, Wahl SM. 1994. Immune dys-regulation in TGF-beta 1-deficient mice. J Immunol. 153(5): 1936-1946

25. Glick AB, Lee MM, Darwiche N, Kulkarni AB, Karlsson S, Yuspa SH. 1994. Targeted deletion of the TGF-beta 1 gene causes rapid progression to squamous cell carcinoma. Genes Dev. 8(20):2429-2440

26. Hines KL, Kulkarni AB, McCarthy JB, Tian H, Ward JM, Christ M, McCartney-Francis NL, Furcht LT, Karlsson S, Wahl SM. 1994. Synthetic fibronectin peptides interrupt inflammatory cell infiltration in transforming growth factor beta 1 knockout mice. Proc Natl Acad Sci U S A. 91(11):5187-5191

27. Letterio JJ, Geiser AG, Kulkarni AB, Roche NS, Sporn MB, Roberts AB. 1994. Maternal rescue of transforming growth factor-beta 1 null mice. Science. 264(5167):1936-1938

28. Dickson MC, Martin JS, Cousins FM, Kulkarni AB, Karlsson S, Akhurst RJ. 1995. Defective haematopoiesis and vasculogenesis in transforming growth factor-beta 1 knockout mice. Development. 121(6):1845-1854

29. Kulkarni AB, Ward JM, Yaswen L, Mackall CL, Bauer SR, Huh CG, Gress RE, Karlsson S. 1995. Transforming growth factor-beta 1 null mice. An animal model for inflammatory disorders. Am J Pathol. 146(1):264-275

30. Martin JS, Dickson MC, Cousins FM, Kulkarni AB, Karlsson S, Akhurst RJ. 1995. Analysis of homozygous TGF beta 1 null mouse embryos demonstrates defects in yolk sac vasculogenesis and hematopoiesis. Ann N Y Acad Sci. 752:300-308

31. Ohshima T, Murray GJ, Nagle JW, Quirk JM, Kraus MH, Barton NW, Brady RO, Kulkarni AB. 1995. Structural organization and expression of the mouse gene encoding alpha-galactosidase A. Gene. 166(2):277-280

32. Ohshima T, Nagle JW, Pant HC, Joshi JB, Kozak CA, Brady RO, Kulkarni AB. 1995. Molecular cloning and chromosomal mapping of the mouse cyclin-dependent kinase 5 gene. Genomics. 28(3):585-588

33. Letterio JJ, Geiser AG, Kulkarni AB, Dang H, Kong L, Nakabayashi T, Mackall CL, Gress RE, Roberts AB. 1996. Autoimmunity associated with TGF-beta1-deficiency in mice is dependent on MHC class II antigen expression. J Clin Invest. 98(9):2109-2119

34. McCartney-Francis NL, Mizel DE, Redman RS, Frazier-Jessen M, Panek RB, Kulkarni AB, Ward JM, McCarthy JB, Wahl SM. 1996. Autoimmune Sjögren's-like lesions in salivary glands of TGF-beta1-deficient mice are inhibited by adhesion-blocking peptides. J Immunol. 157(3):1306-1312

35. Ohshima T, Kozak CA, Nagle JW, Pant HC, Brady RO, Kulkarni AB. 1996. Molecular cloning and chromosomal mapping of the mouse gene encoding cyclin-dependent kinase 5 regulatory subunit p35. Genomics. 35(2):372-375

36. Ohshima T, Ward JM, Huh CG, Longenecker G, Veeranna, Pant HC, Brady RO, Martin LJ, Kulkarni AB. 1996. Targeted disruption of the cyclin-dependent kinase 5 gene results in abnormal corticogenesis, neuronal pathology and perinatal death. Proc Natl Acad Sci U S A. 93(20):11173-11178

37. Yaswen L, Kulkarni AB, Fredrickson T, Mittleman B, Schiffman R, Payne S, Longenecker G, Mozes E, Karlsson S.1996. Autoimmune manifestations in the transforming growth factor-beta 1 knockout mouse. Blood. 87(4):1439-1445

38. Yoshida K, Cleaveland ES, Nagle JW, French S, Yaswen L, Ohshima T, Brady RO, Pentchev PG, Kulkarni AB. 1996. Molecular cloning of the mouse apolipoprotein D gene and its upregulated expression in Niemann-Pick disease type C mouse model. DNA Cell Biol. 15(10):873-882

39. D'Souza RN, Cavender A, Sunavala G, Alvarez J, Ohshima T, Kulkarni AB, MacDougall M. 1997. Gene expression patterns of murine dentin matrix protein 1 (Dmp1) and dentin sialophosphoprotein (DSPP) suggest distinct developmental functions in vivo. J Bone Miner Res. 12(12):2040-2049

40. McCartney-Francis NL, Mizel DE, Frazier-Jessen M, Kulkarni AB, McCarthy JB, and Wahl SM. 1997. Lachrymal gland inflammation is responsible for ocular pathology in TGF-beta 1 null mice. Am J Pathol. 151(5):1281-1288

41. Ohshima T, Murray GJ, Swaim WD, Longenecker G, Quirk JM, Cardarelli CO, Sugimoto Y, Pastan I, Gottesman MM, Brady RO, Kulkarni AB. 1997. Alpha-Galactosidase A deficient mice: a model of Fabry disease. Proc Natl Acad Sci U S A. 94(6):2540-2544

42. Feng JQ, Luan X, Wallace J, Jing D, Ohshima T, Kulkarni AB, D'Souza RN, Kozak CA, MacDougall M. 1998. Genomic organization, chromosomal mapping, and promoter analysis of the mouse dentin sialophosphoprotein (Dspp) gene, which codes for both dentin sialoprotein and dentin phosphoprotein. J Biol Chem. 273(16):9457-9464

43. Gilmore EC, Ohshima T, Goffinet AM, Kulkarni AB, Herrup K. 1998. Cyclin-dependent kinase 5-deficient mice demonstrate novel developmental arrest in cerebral cortex. J Neurosci. 18(16):6370-6377

44. Kobayashi S, Yoshida K, Ohshima T, Esumi N, Paralkar VM, Wistow GJ, Kulkarni AB. 1998. DNA sequence motifs are associated with aberrant homologous recombination in the mouse macrophage migration inhibitory factor (Mif) locus. Gene. 215(1):85-92

45. Ohshima T, Gilmore EC, Herrup K, Brady RO, Kulkarni AB. 1998. Ontogeny of abnormal brain development in Cdk5 (-/-) mice. Dev Brain Dysfunction. 10:271-281

46. Sudarshan C, Yaswen L, Kulkarni A, Raghow R. 1998. Phenotypic consequences of transforming growth factor beta1 gene ablation in murine embryonic fibroblasts: autocrine control of cell proliferation and extracellular matrix biosynthesis. J Cell Physiol. 176(1):67-75

47. Xu T, Bianco P, Fisher LW, Longenecker G, Smith E, Goldstein S, Bonadio J, Boskey A, Heegaard AM, Sommer B, Satomura K, Dominguez P, Zhao C, Kulkarni AB, Robey PG, Young MF. 1998. Targeted disruption of the biglycan gene leads to an osteoporosis-like phenotype in mice. Nat Genet. 20(1):78-82

48. Kobayashi S, Satomura K, Levsky JM, Sreenath T, Wistow GJ, Semba I, Shum L, Slavkin HC, Kulkarni AB.1999. Expression pattern of macrophage migration inhibitory factor during embryogenesis. Mech Dev. 84(1-2): 153-156

49. Kobayashi S, Yoshida K, Ward JM, Letterio JJ, Longenecker G, Yaswen L, Mittleman B, Mozes E, Roberts AB, Karlsson S, Kulkarni AB. 1999. Beta 2-microglobulin-deficient background ameliorates lethal phenotype of the TGF-beta 1 null mouse. J Immunol. 163(7):4013-4019

50. Ohshima T, Gilmore EC, Longenecker G, Jacobowitz DM, Brady RO, Herrup K, Kulkarni AB. 1999. Migration defects of Cdk5(-/-) neurons in the developing cerebellum is cell autonomous. J Neurosci. 19(14):6017-6026

51. Ohshima T, Schiffmann R, Murray GJ, Kopp J, Quirk JM, Stahl S, Chan CC, Zerfas P, Tao-Cheng JH, Ward JM, Brady RO, Kulkarni AB. 1999. Aging accentuates and bone marrow transplantation ameliorates metabolic defects in Fabry disease mice. Proc Natl Acad Sci U S A. 96(11):6423-6427

52. Sreenath TL, Cho A, MacDougall M, Kulkarni AB. 1999. Spatial and temporal activity of the dentin sialophosphoprotein gene promoter: differential regulation in odontoblasts and ameloblasts. Int J Dev Biol. 43(6):509-516

53. Abe A, Gregory S, Lee L, Killen PD, Brady RO, Kulkarni A, Shayman JA. 2000. Reduction of globotriaosylceramide in Fabry disease mice by substrate deprivation. J Clin Invest. 105(11):1563-1571

54. Ashcroft GS, Lei K, Jin W, Longenecker G, Kulkarni AB, Greenwell-Wild T, Hale-Donze H, McGrady G, Song XY, Wahl SM. 2000. Secretory leukocyte protease inhibitor mediates non-redundant functions necessary for normal wound healing. Nat Med. 6(10):1147-1153

55. Takenaka T, Murray GJ, Qin G, Quirk JM, Ohshima T, Qasba P, Clark K, Kulkarni AB, Brady RO, Medin JA. 2000. Long-term enzyme correction and lipid reduction in multiple organs of primary and secondary transplanted Fabry mice receiving transduced bone marrow cells. Proc Natl Acad Sci U S A. 97(13):7515-7520

56. Totey SM, Kulkarni AB. 2000. Gene targeting in immunology. Indian J Exp Biol. 38(8):733-745

57. Baccaglini L, Schiffmann R, Brennan MT, Lancaster HE, Jr., Kulkarni AB, Brahim JS. 2001. Oral and craniofacial findings in Fabry's disease: a report of 13 patients. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 92(4):415-419

58. Gibson CW, Yuan ZA, Hall B, Longenecker G, Chen E, Thyagarajan T, Sreenath T, Wright JT, Decker S, Piddington R, Harrison G, Kulkarni AB. 2001. Amelogenin-deficient mice display an amelogenesis imperfecta phenotype. J Biol Chem. 276(34):31871-31875

59. Hirasawa M, Cho A, Sreenath T, Sauer B, Julien JP, Kulkarni AB. 2001. Neuron-specific expression of Cre recombinase during the late phase of brain development. Neurosci Res. 40(2):125-132

60. Ko J, Humbert S, Bronson RT, Takahashi S, Kulkarni AB, Li E, Tsai LH. 2001. p35 and p39 are essential for cyclin-dependent kinase 5 function during neurodevelopment. J Neurosci. 21(17):6758-6771

61. Li BS, Sun MK, Zhang L, Takahashi S, Ma W, Vinade L, Kulkarni AB, Brady RO, Pant HC. 2001. Regulation of NMDA receptors by cyclin-dependent kinase-5. Proc Natl Acad Sci U S A. 98(22):12742-12747

62. Ohshima T, Ogawa M, Veeranna, Hirasawa M, Longenecker G, Ishiguro K, Pant HC, Brady RO, Kulkarni AB, Mikoshiba K. 2001. Synergistic contributions of cyclin-dependant kinase 5/p35 and Reelin/Dab1 to the positioning of cortical neurons in the developing mouse brain. Proc Natl Acad Sci U S A. 98(5):2764-2769

63. Prigozy TI, Naidenko O, Qasba P, Elewaut D, Brossay L, Khurana A, Natori T, Koezuka Y, Kulkarni A, Kronenberg M. 2001. Glycolipid antigen processing for presentation by CD1d molecules. Science. 291(5504):664-667

64. Tanaka T, Veeranna, Ohshima T, Rajan P, Amin ND, Cho A, Sreenath T, Pant HC, Brady RO, Kulkarni AB. 2001. Neuronal cyclin-dependent kinase 5 activity is critical for survival. J Neurosci. 21(2):550-558

65. Thyagarajan T, Sreenath T, Cho A, Wright JT, Kulkarni AB. 2001. Reduced expression of dentin sialophosphoprotein is associated with dysplastic dentin in mice overexpressing transforming growth factor-beta 1 in teeth. J Biol Chem. 276(14):11016-11020

66. Chen S, Gu TT, Sreenath T, Kulkarni AB, Karsenty G, MacDougall M. 2002. Spatial expression of Cbfa1/Runx2 isoforms in teeth and characterization of binding sites in the DSPP gene. Connect Tissue Res. 43(2-3):338-344

67. Li BS, Zhang L, Takahashi S, Ma W, Jaffe H, Kulkarni AB, Pant HC. 2002. Cyclin-dependent kinase 5 prevents neuronal apoptosis by negative regulation of c-Jun N-terminal kinase 3. Embo J. 21(3):324-333

68. Longenecker G, Thyagarajan T, Nagineni CN, Flanders KC, Factor V, Miller G, Ward JM, Nalca A, Rangnekar VM, Thorgeirsson S, Kulkarni AB. 2002. Endocrine expression of the active form of TGF-beta1 in the TGF-beta1 null mice fails to ameliorate lethal phenotype. Cytokine. 18(1):43-50

69. Ohshima T, Ogawa M, Takeuchi K, Takahashi S, Kulkarni AB, Mikoshiba K. 2002. Cyclin-dependent kinase 5/p35 contributes synergistically with Reelin/Dab1 to the

positioning of facial branchiomotor and inferior olive neurons in the developing mouse hindbrain. J Neurosci. 22(10):4036-4044

70. Sharma P, Veeranna, Sharma M, Amin ND, Sihag RK, Grant P, Ahn N, Kulkarni AB, Pant HC. 2002. Phosphorylation of MEK1 by cdk5/p35 down-regulates the mitogen-activated protein kinase pathway. J Biol Chem. 277(1):528-534

71. Thyagarajan T, Kulkarni AB. 2002. Transforming growth factor-beta1 negatively regulates crystallin expression in teeth. J Bone Miner Res. 17(9):1710-1717

72. Chen E, Yuan ZA, Wright JT, Hong SP, Li Y, Collier PM, Hall B, D'Angelo M, Decker S, Piddington R, Abrams WR, Kulkarni AB, Gibson CW. 2003. The small bovine amelogenin LRAP fails to rescue the amelogenin null phenotype. Calcif Tissue Int. 73(5):487-495

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