

CURRICULUM VITAE

NAME Andrew Bean

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EDUCATION

1979-1981 B.A., Psychobiology Oberlin College, Oberlin, OH
1985-1990 Ph.D., Pharmacology Yale University, New Haven, CT
1990-1993 Fellow Histologen Karolinska Institute, Stockholm, Sweden
1993-1997 MCP Stanford University School of Medicine, Stanford, CA

TEACHING EXPERIENCE

1997-2004 Assistant Professor, University of Texas Medical School, Houston, TX
2004-present Associate Professor (with tenure), University of Texas Medical School, Houston, TX
2007-present Adjunct Associate Professor, Department of Pediatrics, M. D. Anderson Cancer Center, Houston, TX
2007-present Adjunct Faculty, Houston Community College, Houston, TX

PROFESSIONAL SERVICE

6/2002-2006 Ad Hoc Member, MCDN-1 Study Section NIH
7/2002 Ad Hoc NSF reviewer, Neural and Glial Mechanisms
2/2003-2006 Member, American Heart Association review committee 3A
9/2003 Ad Hoc NSF reviewer, Neural and Glial Mechanisms
2006-2008 Member, SYN Study Section NIH
4/2008 Ad Hoc NSF reviewer, Cellular Systems
1/2009 Ad Hoc, ZRG MCDN Study Section NIH
4/2009 Ad Hoc, ZRG MDCN Study Section NIH
6/2009 Ad Hoc, SYN Study Section NIH
8/2010 Ad Hoc, ZRG MDCN Study Section NIH

GRANTS (past 10 yrs)

10/97-9/01 E. Mallinckrodt, Jr. Foundation Award (\$155,000 Molecular mechanisms of peptide secretion).
4/98-4/01 **NIH-R01-MH58920** (\$825,000, PI, Molecular mechanisms of neurotransmitter secretion)
9/01-8/06 **NIH-R01-MH58920** (renewal, \$1,215,000, PI, Molecular mechanisms of neurotransmitter secretion).
7/06-6/11 **NIH-R01-MH58920** (renewal, \$1,836,000, PI, Molecular Mechanisms of Endocytosis). **Active**
10/01-10/03 **NSF-IBN-0116985** (\$100,000, Molecular mechanisms of endocytosis.
1/02-12/09 **NIH-R01-MH43258** (\$1,400,000 co-PI, 3-D electron microscopy of the ATPase hrs).
10/07-9/09 UT-Houston Clinical and Translational Research Center, (\$50,000, PI, Examination of a candidate biomarker in neuroblastoma).

PUBLISHED PAPERS

1. Bean, A.J., and Vaught, J.L. [D-Arg]-Kyotorphin-induced ipsilateral rotation: Evidence for in vivo effects independent of met-enkephalin release, *Brain Res.* 321:327-331, 1984.
2. Bean, A.J., and Vaught, J.L. Physical dependence produced by chronic intracerebroventricular infusion of [D-Arg]-kyotorphin or thiorphan in rats, *Eur. J. Pharmacol.* 105:333-337, 1984.
3. Bean, A.J., Baldy, W.J., and Martin, G.E. Chronic proglumide increases [³H]-spiperone binding in the rat brain, *Eur. J. Pharmacol.* 117:97-101, 1985.
4. Bean, A.J., Elgin Jr., R.J., Cooper, D.M., and Martin, G.E. Cyclo (Leu-Gly) + Haloperidol: effects on dopamine receptors and conditioned avoidance responding, *Peptides* 8:39-41, 1987.
5. Deutch, A.Y., Bean, A.J., Bissette, G., Nemeroff, C.B., Robbins, R.J., and Roth, R.H., Stress-induced alterations in neurotensin, somatostatin, and corticotropin-releasing factor in mesotelencephalic dopamine system regions, *Brain Res.* 417:350-354, 1987
6. Bowden, C.R., Karkanas, C.D., and Bean, A.J., Re-evaluation of histidyl-proline diketopiperazine [Cyclo(His-Pro)] effects on food intake in the rat, *Pharmacol. Biochem. Behav.* 29:357-363, 1988
7. Deutch, A.Y., Bean, A.J., and Roth, R.H., Regulation of A8 dopamine neurons by somatostatin, *Eur. J. Pharmacol.* 147:317-320, 1988.
8. Bean, A.J., Shepard, P.D., Bunney, B.S., Nestler, E.J., and Roth, R.H., The effects of pertussis toxin on autoreceptor-mediated inhibition of dopamine synthesis in rat striatum, *Mol. Pharmacol.* 34:715-718, 1988.
9. Bean, A.J., Adrian, T.E., Modlin, I.M., and Roth, R.H., Dopamine and neurotensin storage in colocalized and non-colocalized neuronal populations, *J. Pharm. Exp. Ther.* 249:681-687, 1989.
10. Bean, A.J., During, M.J., and Roth, R.H., Stimulation-induced release of coexistent transmitters in the prefrontal cortex: an in vivo microdialysis study of dopamine and neurotensin release, *J. Neurochem.* 53:655-657, 1989.
11. Bean, A.J., During, M.J., Deutch, A.Y., and Roth, R.H., The effects of dopamine depletion on striatal neurotensin: biochemical and immunohistochemical studies, *J. Neurosci.* 9:4430-4438, 1989.
12. Bean, A.J., During, M.J., and Roth, R.H., Effects of dopamine autoreceptor stimulation on the release of colocalized transmitters: in vivo release of dopamine and neurotensin from rat prefrontal cortex, *Neurosci. Lett.*, 108:143-148, 1990.
13. Bean, A.J. and Roth R.H., Stimulated release of cotransmitters from rat prefrontal cortex in vivo: effects of stimulation frequency, stimulation pattern, and dopamine autoreceptors on dopamine and neurotensin release, *J. Neurosci.*, 11:2694-2702, 1991.
14. Bean, A.J. and Roth, R.H., Effects of haloperidol administration on in vivo dopamine release from striatum and prefrontal cortex after partial dopamine lesions. *Brain Res.*, 549:155-158, 1991.
15. Bean, A.J., Elde, R., Cao, Y., Olleig, C., Tamminga, C., Goldstein, M., Pettersson, R.F., and Hökfelt, T., Expression of fibroblast growth factors in the substantia nigra of rat, monkey, and human, *Proc. Natl. Acad. Sci.* 88:10237-10241, 1991.
16. Bean, A.J., Xu, Z., Chai, S.-Y., Brimijoin, S., and Hökfelt, T., Effect of intracerebral injection of monoclonal acetylcholinesterase antibodies on cholinergic nerve terminals in the rat central nervous system, *Neurosci. Lett.* 133:145-149, 1991.
17. Bean, A.J. and Hökfelt, T., Reserpine increases striatal neurotensin mRNA levels, *Mol. Brain Res.* 12:345-348, 1992.
18. Hökfelt, T., Bean, A.J., Ceccatelli, S., Dagerlind, Å, Goldstein, M., Meister, B., Nicholas, A.P., Pelto-Huikko, M., Pieribone, V., Schalling, M., Verge, V., and Xu, Z., Neuropeptides and

classical transmitters-localization and interaction. *Arzneimittel Forschung*, 42:196-201, 1992.

19. During, M.J., Bean, A.J., and Roth, R.H., Effects of CNS stimulants on the in vivo release of the colocalized transmitters, dopamine and neurotensin, from rat prefrontal cortex. *Neurosci. Lett.* 140:129-133, 1992.

20. Strowbridge, B.W., Bean, A.J., Spencer, D.D., Roth R.H., Shepherd, G.M., and Robbins, R.J., Low levels of somatostatin-like immunoreactivity in neocortex resected from presumed seizure foci in epileptic patients, *Brain Res.* 587:164-168, 1992.

21. Dagerlind, Å., Friberg, K., Bean, A.J., and Hökfelt, T., Sensitive mRNA detection using unfixed tissue: combined radioactive and nonradioactive in situ hybridization histochemistry, *Histochemistry*, 98:39-49, 1992.

22. Bean, A.J., Dagerlind, Å., Hökfelt, T., and Dobner, P.R., Cloning of human neurotensin/neuromedin N genomic sequences and expression in the ventral mesencephalon of schizophrenics and age/sex matched controls, *Neuroscience*, 50:259-268, 1992.

23. Bean, A.J., Olleig, C., Pettersson, R.F., and Hökfelt, T., Differential developmental expression of acidic and basic fibroblast growth factors in rat substantia nigra, *NeuroReport*, 3:993-996, 1992.

24. Bean, A.J., Simons, J.F, and Hökfelt, T. Production of labeled cRNA probes without vector cloning: application to the localization of basic fibroblast growth factor and tyrosine hydroxylase mRNAs by in situ hybridization histochemistry, *Mol. Cell. Neurosci.*, 4:216-221, 1993.

25. Meister, B., Bean, A.J., and Aperia, A., Catechol-O-methyl transferase mRNA in the kidney and its appearance during ontogeny, *Kidney Int.* 44:726-733, 1993.

26. Wetmore, C., Olson, L., and Bean, A.J. Regulation of brain-derived neurotrophic factor (BDNF) expression and release from hippocampal neurons is mediated by non-NMDA type glutamate receptors, *J. Neurosci.* 14:1688-1700, 1994.

27. Bean, A.J., Xu, Z., and Hökfelt, T., Peptide secretion: what do we know? *Faseb J.* 8:630-638, 1994.

28. Jacobsson, G., Bean, A.J., Scheller, R.H., Juntti-Berggren, L., Deeney, J.T., Berggren, P.-O., and Meister, B., Identification of synaptic proteins and their isoform mRNAs in compartments of pancreatic endocrine cells, *Proc. Natl. Acad. Sci.* 91:12487-12491, 1994.

29. Zhang, X., Bean, A.J., Wiesenfeld-Hallin, Xu, X.-J., and Hokfelt, T., Ultrastructural studies on peptides in the dorsal horn of the rat spinal cord-III. Effects of peripheral axotomy with special reference to galanin, *Neuroscience* 64:893-915, 1995.

30. Zhang, X., Bean, A.J., Wiesenfeld-Hallin, and Hokfelt, T., Ultrastructural studies on peptides in the dorsal horn of the rat spinal cord-IV. Effects of peripheral axotomy with special reference to neuropeptide Y and vasoactive intestinal polypeptide/peptide histidine isoleucine, *Neuroscience* 64:917-941, 1995.

31. Ting, A.E., Hazuka, C.D., Hsu, S.-C., Kirk, M.D., Bean, A.J., and Scheller, R.H. rSEC6 and rSEC8, mammalian homologs of yeast proteins essential for secretion, *Proc. Natl. Acad. Sci.* 92:9613-9617, 1995.

32. Andersson, A.M., Melin, L., Bean, A.J., and Pettersson, R.F., A retention signal necessary and sufficient for Golgi localization maps to the cytoplasmic tail of a Bunyaviridae (Uukuniemi Virus) membrane glycoprotein, *J. Virol.* 71:4717-4727, 1997.

33. Bean, A.J., Seifert, R., Chen, Y. A., Sacks, R., and Scheller, R.H. Hrs-2 is an ATPase implicated in calcium-regulated secretion, *Nature* 385:826-829, 1997

34. Tsujimoto, S., Pelto-Huikko, M., Aitola, M., Meister, B., Vik-Mo, E.O., Davanger, S., Scheller, R.H., and Bean, A.J. The cellular and developmental expression of hrs-2 in rat, *Eur. J. Neurosci.* 11:3047-3063, 1999.

35. Jacobsson, G., Bean, A.J., and Meister, B. Isoform-specific exocytotic protein mRNA

expression in hypothalamic magnocellular neurons: regulation after osmotic challenge, *Neuroendocrinol.* 70:392-401, 1999.

36. Tsujimoto, S., and Bean, A.J. Distinct protein domains are responsible for the interaction of hrs-2 with SNAP-25: the role of hrs-2 in 7S complex formation, *J. Biol. Chem.* 275:2938-2942, 2000.

37. Bean, A.J., Davanger, S., Chou, M.F., Gerhardt, B., Tsujimoto, S., and Chang, Y. Hrs-2 regulates both endocytic and exocytic machinery via calcium-sensitive protein interactions with SNAP-25 and Eps15, *J. Biol. Chem.* 275:15271-15278, 2000.

38. Shukla, A., Hager, H., Corydon, T.J., Bean, A.J., Dahl, R., Vajda, Z., Hoffmann, H.J., and Nielsen, S. The SNAP-25 associated hrs-2 protein is expressed in rat kidney collecting duct principal cells: co-localization with AQP2. *Am. J. Physiol.* 281:F546-556, 2001.

39. Angers, A., Fiorvante, D., Chin, J., Cleary, L.J., Bean, A.J., and Byrne, J.H. Serotonin stimulates phosphorylation of *Aplysia* synapsin and alters its subcellular distribution in sensory neurons. *J. Neurosci.* 22:5412-5422, 2002.

40. Sun, W., Yan, Q., Vida, T.A., and Bean, A.J., Hrs regulates early endosome fusion by inhibiting formation of an endosomal SNARE complex. *J. Cell Biol.* 162:125-137, 2003.

41. Yan, Q., Sun, W., McNew, J.A., Vida, T.A., Bean, A.J., Ca²⁺ and N-Ethylmaleimide-sensitive factor differentially regulate disassembly of SNARE complexes on early endosomes. *J. Biol. Chem.* 279:18270-18276, 2004

42. Yan, Q., Hunt, P. R., Frelin, L., Vida, T.A., Pevsner, J., and Bean, A.J., mVPS24 functions in EGF receptor sorting/trafficking from the early endosome. *Exp. Cell Res.* 304:265-273, 2005.

43. Yan, Q., Sun, W., Kujala, P., Lotfi, Y., Vida, T.A., and Bean, A.J., CART: an Hrs/actinin-4/BERP/myosin V protein complex required for efficient receptor recycling. *Mol Biol Cell.* 16:2470-82, 2005.

44. Rayala, S.K., den Hollander, P., Balasenthil, S., Molli, P.R., Bean, A.J., Vadlamudi, R.K., Wang, R.A., and Kumar, R., Hepatocyte growth factor regulated tyrosine kinase substrate (HRS) interacts with PELP1 and activates MAPK. *J Biol Chem.* 281:4395-4403, 2006.

45. Pullen, L., Mullapudi, S., Huang, Z., Baldwin, P.R., Chin, C., Sun, W., Tsujimoto, S., Kolodziej, S.J., Stoops, J., Lee, J.C., Waxham, M.N., Bean, A.J., and Penczek, P., The endosome-associated protein hrs is hexameric and controls cargo sorting as a “master molecule”. *Structure*, 14:661-671, 2006.

46. Millman, E.E., Zhang, H., Zhang, H., Godines, V., Bean, A.J., Knoll, B.J., and Moore, R.H., Rapid recycling of β 2-Adrenergic receptors is dependent on the actin cytoskeleton and myosin Vb, *Traffic*, 9:1958-1971, 2008.

47. Sun, W., Sirisaengtaksin, N., Vida, T.A., and Bean, A.J., Reconstitution of multi-vesicular body formation and receptor sorting *in vitro*. *Traffic*, 11:867-876, 2010. PMID: 20214752.

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49. Serda, R., Mack, A., van de Ven, A., Ferrati, S., Dunner Jr., K., Godin, B., Chiappini, C., Landry, M., Brousseau, L., Liu, X., Bean, A.J., and Ferrari, M. Logic-embedded vectors for intracellular partitioning, endosomal escape, and exocytosis of nanoparticles, *Small*. In Press, 2010.

BOOKS

Bean, A.J., ed., Protein Trafficking in Neurons, London: Elsevier Academic Press. 2006.

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