

Dr. Narendra Narayana

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Science & Engineering, Physical & Environmental Sciences
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Education

PhD, Indian Institute of Science, 1986.

MS, Bangalore University, 1981.

BS, Bangalore University, 1979.

Professional Employment

Visiting Assistant Professor, Texas A&M Corpus Christi. (September 2010 - Present).
Teaching Biochemistry-I and Biochemistry-II lectures and Labs

Research Scientist, UT Health Science Center, San Antonio. (July 2007 - August 2010).
Research on CARDS Toxin and Bone Morphogenetic protein

Assistant Professor, Case Western Reserve University. (September 1999 - June 2007).
Research and Teaching.

Assistant Research Professor, University of Chicago. (September 1997 - August 1999).
Diabetes-related research

Assistant Project Scientist, University of California, San Diego. (October 1995 - August 1997).
Research related to Protein Kinase

Post-graduate Research Chemist, University of California, San Diego. (August 1990 - September 1995).
Research related to Dihydrofolate reductase and the catalytic subunit of protein kinase A.

post-doctoral associate, Rutgers University. (December 1987 - July 1990).
Research related to DNA structure

Professional Memberships

American Chemical Society
American Crystallographic Association

TEACHING

Teaching Experience

BIOL 371, Undergraduate Biochemistry Literature seminar
BIOL 372, undergraduate biochemistry literature seminar
CHEM 1111, GENERAL CHEMISTRY LAB I
CHEM 1112, GENERAL CHEMISTRY LAB II
CHEM 1305, INTRODUCTORY CHEMISTRY
CHEM 4401, BIOCHEMISTRY I

SCHOLARLY AND CREATIVE ACTIVITIES

Publications

Refereed

Journal Articles

Galaledeen, A., Strange, R., Whitson, L. J., Antonyuk, S., Narendra, N., Taylor, A. B., Schuermann, J. P., Holloway, S. P., Hasnain, S. S., Hart, P. J. (2009). Structural and biophysical properties of metal-free pathogenic SOD1 mutants A4V and G93A. *Arch Biochem Biophys*, 492(1-2), 40-47.

Narendra, N., Weiss, M. A. (2008). Crystallographic Analysis of a Sex-Specific Enhancer Element: Sequence-Dependent DNA Structure, Hydration, and Dynamics. *J. Mol. Biol.*, 385, 469-490.

N, D., Griffith, E., Narendra, N. (2007). Crystal structure of Q67H mutant of R67 dihydrofolate reductase-NADP⁺ complex reveals a novel cofactor binding mode. *Protein Science*, 16, 1063-1068.

Narendra, N., Nelson, P. B., Hua, Q.-x., Hua, W., Weiss, M. A. (2006). Diabetes Mellitus due to Misfolding of a β -cell Transcription Factor: Stereospecific Frustration of a Schellman Motif in HNF-1 β . *J. Mol. Biol.*, 362, 414-429.

Narendra, N. (2006). High-resolution structure of a plasmid-encoded R67 dihydrofolate reductase: pentagonal network of water molecules in the D2-symmetric active site. *Acta Crystallog.*, D62, 695-706.

N, U., Kumar, S., Narendra, N. (2005). Crystallization and preliminary X-ray diffraction studies of the WW4 domain of the Nedd4-2 ubiquitin-protein ligase. *Acta Cryst.*, F61, 1084-1086.

Narendra, N., N, S., N, G. K., A, V. M. (2005). Interaction between Z-type DNA duplex and 1,3-propanediamine: Crystal structure of d(CACGTG)₂ at 1.2 Å resolution. *Biochemistry*, 45, 1200-1211.

Lachenmann, M. J., Ladbury, J. E., Phillips, N. B., Narendra, N., Qian, X., Weiss, M. A. (2002). The hidden thermodynamics of a zinc finger. *Journal of Molecular Biology*, 316, 969-989.

Narendra, N., Hua, Q., Weiss, M. A. (2001). The dimerization domain of HNF-1 β : Crystal structure of an intertwined four-helix bundle. *Journal of Molecular Biology*, 310, 635-658.

Wong, C. F., Hunenberger, P. H., Akamine, P., Narendra, N., Diller, T., McCammon, A., Taylor, S. S., Xuong, N.-h. (2000). Computational analysis of PKA-Balanol complex. *Journal of Medicinal Chemistry*, 44, 1530-1539.

Taylor, S. S., Radzio-Andzelm, E., M., Cheng, X., Ten Eyck, L. F., Narendra, N. (1999). Catalytic subunit of cyclic AMP-dependent protein kinase: structure and dynamics of the active site cleft. *Pharmacol. Ther.*, 82, 133-141.

- Hunenberger, P. H., Helms, V., Narendra, N., Taylor, S. S., McCammon, J. A. (1999). Determinants of ligand binding to cAMP-dependent protein kinase. *Biochemistry*, 38, 2358-2366.
- Hua, Q., Zhao, M., Narendra, N., Nakagawa, S., Weiss, M. A. (1999). Diabetes-Associated mutations in a β -cell transcription factor destabilize an antiparallel "mini-zipper" in a dimerization interface. *Proceedings of the National Academy of Sciences*, 97, 1999-2004.
- Narendra, N., Diller, T. C., Koide, K., Bunnage, M. E., Nicolaou, K. C., Brunton, L. L., Xuong, N.-h., Ten Eyck, L. F., Taylor, S. S. (1999). Crystal structure of the potent inhibitor balanol complexed with the catalytic subunit of cAMP-dependent protein kinase. *Biochemistry*, 38, 2367-2376.
- Zhang, Z., Komives, E., Sugio, S., Blacklow, S. C., Narendra, N., Xuong, N.-h., Stock, A. M., Petsko, G. A., Ringe, D. (1999). The role of water in the catalytic efficiency of triosephosphate isomerase. *Biochemistry*, 38, 4389-4397.
- Weiss, M. A., Narendra, N. (1998). RNA recognition by arginine-rich peptide motifs. *Biopolymers (Nucleic acid Sciences)*, 48, 167-180.
- Narendra, N., Akamine, P., Xuong, N.-h., Taylor, S. S. (1998). Crystallization and preliminary X-ray analysis of the unliganded catalytic subunit of cAMP-dependent protein kinase at 3.0 Å resolution. *Acta Crystallographica*, D54, 1401-1404.
- Narendra, N., Cox, S., Xuong, N.-h., Ten Eyck, L. F., Taylor, S. S. (1997). A binary complex of the catalytic subunit of cAMP-dependent protein kinase and adenosine further defines conformational flexibility. *Structure*, 5, 921-935.
- Narendra, N., Cox, S., Shaltiel, S., Taylor, S. S., Xuong, N.-h. (1997). Crystal structure of the poly-histidine tagged recombinant catalytic subunit of cAMP-dependent protein kinase complexed with the peptide inhibitor PKI(5-24) and adenosine. *Biochemistry*, 36, 4438-4448.
- Komives, E. A., Loughheed, J. C., Zhang, Z., Sugio, S., Narendra, N., Xuong, N.-h., Petsko, G. A., Ringe, D. (1996). The structural basis for pseudoreversion of the H95N lesion by the secondary S96P mutation in triosephosphate isomerase. *Biochemistry*, 35, 15474-15484.
- Narendra, N., Matthews, D. A., Howell, E. E., Xuong, N.-h. (1995). A Plasmid-encoded dihydrofolate reductase from trimethoprim-resistant bacteria has a novel D2-symmetric active site. *Nature Structural Biology*, 2, 1018-1025.
- Narendra, N., Ginell, S. L., Russu, I. M., Berman, H. M. (1991). Crystal and Molecular structure of a DNA fragment - d(CGTGAATTCACG)₂. *Biochemistry*, 30, 4449-4455.
- Narendra, N., Viswamitra, M. A., Venkateswara, R., Sankara Rao, K., Vaidyanathan, C. S. (1988). Structure of Cryptosin monohydrate - a new cardioactive glycoside. *Acta Crystallographica*, C43, 1562-1564.
- Venkateswara, R., Narendra, N., Viswamitra, M. A., Vaidyanathan, C. S. Cryptosin, A cardenolide from the leaves of *Cryptolepis buchanani*. *Phytochemistry*, 28, 1203-1205.
- Narendra, N., Seshadri, T. P., Viswamitra, M. A. (1986). Structure of the dipotassium salt of fructose 6-phosphate hexahydrate. *Acta Crystallographica*, C41, 1612-1615.
- Narendra, N., Seshadri, T. P., Viswamitra, M. A. (1985). Structure of trisodium fructose 1,6-diphosphate octahydrate. *Acta Crystallographica*, C41, 31-34.

Narendra, N., Viswamitra, M. A. (1985). Structure of the dipotassium glucose 1-phosphate dihydrate. *Current Science*, 53, 1018-1020.

Narendra, N., Seshadri, T. P., Viswamitra, M. A. (1985). Structure of the disodium salt of glucose 1-phosphate hydrate. *Acta Crystallographica*, C40, 1338-1340.

Narendra, N., Viswamitra, M. A. (1984). Structure of the monosodium salt of D-glucose 6-hydrogenphosphate. *Acta Crystallographica*, C41, 1621-1624.

Presentations

Narendra, N. (Author), Vasquez, E. R. (Author & Presenter), Buck, G. W. (Leader), "Induction of the GehD phospholipase in non-clinical strains of *Staphylococcus epidermidis* under heat-stress," Kingsville. (August 2013).

Scholarly and Creative Awards and Honors

Post-doctoral fellowship, Council of Scientific and Industrial Research. (1986).
Pre-doctoral scholarship, Indian Institute of Science. (1981).