

Letter to the Editor

¹H, ¹³C, and ¹⁵N chemical shift assignments of neuronal calcium sensor-1, a multi-functional calcium-binding protein

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Neuronal calcium sensor-1 (NCS-1) is a 190 amino acid residue long Ca²⁺ sensor protein. The protein is myristoylated at the N-terminus. N-terminal myristoylation is supposed to influence Ca²⁺-binding properties and other associated functions of the protein (Jeromin et al., 2004). Out of the four EF-hand motifs present in NCS1 only three of them are functional. NCS-1 has been shown to modulate phosphatidylinositol dependent signaling mechanisms. It is also involved in directly modulating the state and activity of ion channels. Regulation of its expression correlates with learning and memory, short term plasticity at synapses and in schizophrenia. Solving the solution structure of myristoylated NCS-1 is a prerequisite to elucidate the exact role of myristoylation in modulating the conformation of NCS-1, which is required for understanding many of its physiological roles. In this endeavor, we have initiated to determine the 3D solution structure of NCS-1 in its myristoylated form. 2D and 3D heteronuclear NMR experiments with uniformly ¹⁵N-labeled and ¹³C/¹⁵N doubly labeled NCS-1 were used for the resonance assignments (Atreya et al., 2000) of backbone as well as side-chain ¹³C, ¹⁵N, and ¹H spins. The ¹H, ¹³C and ¹⁵N chemical shifts have been deposited in the BioMagResBank under the Accession No. 6942.

References: Jeromin et al. (2004) *J. Biol. Chem.*, **279**, 27158–27167; Atreya et al. (2000) *J. Biomol. NMR*, **17**, 125–136.

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