

Letter to the Editor

NMR assignment of the dimeric *S. aureus* small multidrug-resistance pump in LPPG micelles

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The small multidrug-resistance pump from *Staphylococcus aureus* is a 107aa membrane protein that utilizes the proton gradient across the cell membrane to export a variety of toxic drugs in an antiporter manner (Grinius and Goldberg, 1994). We have initiated NMR structural and functional studies of this membrane transporter in order to better understand its function. An extensive detergent screen revealed that the best quality spectra could be obtained in LPPG micelles (Krueger-Koplin et al., 2004), and equilibrium sedimentation analysis shows the protein to be present in its native dimeric oligomerisation state under these conditions. 2D, 3D and 4D TROSY-based heteronuclear NMR experiments on a uniformly ^2H , ^{13}C and ^{15}N -labelled sample were used for the assignments, and ambiguities were clarified using a few specifically ^{15}N amino acid-labelled samples. Complete H^{N} , N, C and C^{α} assignments and 97% of C^{β} assignments (except S12, T63, S77) were obtained and have been deposited in the BMRB with accession no. 6796.

References: Grinius and Goldberg (1994) *J. Biol. Chem.*, **269**, 29998–30004; Krueger-Koplin et al. (2004) *J. Biomol. NMR*, **28**, 43–57.

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