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Letter to the Editor

Backbone assignment of the 98 kDa homotrimeric yeast PCNA ring

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PCNA (Proliferating Cell Nuclear Antigen) is an essential factor for DNA replication and repair and the effector through which several cell cycle control and apoptosis signals are realized (Maga & Hubscher, 2003). We report the virtually complete (only 7/254 HNs unassigned) ^{1}HN, ^{15}N, ^{13}CO, ^{13}Cα, and ^{13}Cβ assignment of *Saccharomyces cerevisiae* PCNA. A battery of experiments including set A (TROSY-based 3D HNCO, HN(CA)CO, HNCACB, and non-TROSY 4D ^{15}N,^{15}N-NOESY with τ_{mix} = 100 ms) and set B (TROSY 3D HNCA, HN(CO)CA, HN(CO)CACB, and HN(COCA)CB) was recorded on a triply labelled sample (77% ^{2}H) produced in H_2O medium supplemented with labelled algal extract, and allowed ~60% of assignment. A second sample was produced in D_2O medium (MW = 32635 Da/monomer, 93% ^{2}H) and used to re-record the spectra of set A (with NOESY τ_{mix} = 200 ms). This set allowed completion of the assignment, yielding shifts of deuterated ^{13}C isotopomers. Use of the HN–HN short distances from the crystal structure (Krishna et al., 1994) to interpret the NOESY spectra, and identification of particular HN signals in four different non-deuterated residue-specific ^{15}N-labelled samples (Val, Leu, Ile and Phe), was essential for the successful assignment. BMRB access number is 7240.

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References: Maga and Hubscher (2003) *J. Cell Sci.*, **116**, 3051–3060; Krishna et al. (1994) *Cell*, **79**, 1233–1243.

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