



BIOLOGICAL  
CRYSTALLOGRAPHY

Volume 71 (2015)

Supporting information for article:

**Structure calculation, refinement and validation using *CcpNmr Analysis***

**Simon P. Skinner, Benjamin T. Goult, Rasmus H. Fogh, Wayne Boucher, Tim J. Stevens, Ernest D. Laue and Geerten W. Vuister**

**Table S1** Solution Structure Determination of Talin R3 (Goult et al., 2013)

	R3 (787-911)
Restraints	
Unique/Ambiguous NOEs	3444/391
Intra-residue	1279/91
Sequential	749/76
Short range ( $1 <  i - j  < 5$ )	841/123
Long range ( $ i - j  > 4$ )	575/101
$\phi/\psi$ dihedral angles <sup>a</sup>	194
Energies (kcal mol <sup>-1</sup> ) <sup>b</sup>	
Total	-5480.8 ± 74.8
Van Der Waals	-1088.7 ± 13.9
NOE	31.2 ± 4.8
RMS deviations <sup>b</sup>	
NOEs (Å)	0.013 ± 0.001
(no violations >0.5 Å)	
Dihedral restraints (°)	0.31 ± 0.05
(no violations >5°)	
Bonds (Å)	0.003 ± 0.0001
Angles (°)	0.40 ± 0.01
Improper (°)	1.22 ± 0.07
Ramachandran map analysis <sup>c</sup>	
Allowed regions	95.5%
Additional allowed regions	4.2%
Generously allowed regions	0.1%
Disallowed regions	0.1%
Pairwise rms differences (Å) <sup>d</sup>	
All Residues	0.45 (0.86)
Secondary Structure	0.40 (0.84)

<sup>a</sup> From chemical shifts using Talos.<sup>b</sup> Calculated in ARIA 1.2 for the 20 lowest energy structures refined in water.<sup>c</sup> Obtained using PROCHECK-NMR.<sup>d</sup> For backbone atoms; value for all heavy atoms in brackets.

## Reference

Goult, B. T., Zacharchenko, T., Bate, N., Tsang, R., Hey, F., Gingras, A. R., Elliott, P. R., Roberts, G. C. K., Ballestrem, C., Critchley, D. R. et al. (2013). *J. Biol. Chem.* **288**, 8238–8249.