

Letter to the Editor

Resonance assignments of a repeated domain of the egg case silk from *Nephila Antipodiana*

DOI 10.1007/s10858-005-5584-5

Spider silks are renowned for their excellent mechanical properties. Although several spider fibroin genes have been identified, the exact number and composition of the spider fibroin gene family remain unclear. Among seven different silks produced by different abdominal glands for various functions, tubuliform silk (egg case silk) is unique due to its high serine and low glycine content. A novel silk cDNA clone (TuSp1) from the golden web spider *Nephila antipodiana* was recently isolated. TuSp1 is the major component of tubuliform gland. On the basis of amino acid sequence alignment analysis with other species, the putative repeat sequence (designated as TuSp1-RP1) of TuSp1 in *N. antipodiana* was found to consist of 170 residues. The repeat domain encoded by the novel cDNA in water solution exhibits the characteristic of an α -helical structure. To provide insights into the relationship between the amino acid sequence and silk property, we have initiated NMR studies on the solution structure and dynamics of TuSp1-RP1. Using 2D and 3D heteronuclear NMR experiments performed with uniformly ^{15}N -, ^{13}C -labeled TuSp1-RP1, complete backbone and $\sim 94\%$ of the side-chain ^1H , ^{13}C , ^{15}N resonance were assigned. BMRB deposits with accession number 6864.

References: Hu et al. (2005) *Biochemistry*, **44**, 10020–10027; Garb et al. (2005) *Proc. Natl. Acad. Sci.*, **102**(32), 11379–11384.

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Supplementary material is available in electronic format at <http://dx.doi.org/10.1007/s10858-005-5584-5>.