

**Supplementary information, Table S1** Crystallographic data collection and refinement statistics for Scp1-WD40

Data	Scp1-WD40 Native	Scp1-WD40 Se-SAD
Integration Package	HKL2000	HKL2000
Space Group	P2 <sub>1</sub>	P2 <sub>1</sub>
Unit Cell (Å)	38.01, 109.71, 103.45	37.92,109.76,103.26
Unit Cell (°)	90.00, 100.46, 90.00	90.00, 100.39, 90.00
Wavelength (Å)	1.0000	0.9793
Resolution (Å)	40~2.05 (2.12~2.05)	50~2.62 (2.71~2.62)
R <sub>merge</sub> (%)	8.5 (39.1)	9.2 (39.9)
I/sigma	20.0 (4.5)	34.2 (6.0)
Completeness (%)	99.0 (98.9)	98.9 (90.4)
Number of measured reflections	192,570	186,374
Number of unique reflections	51,784	25,071
Redundancy	3.7 (3.5)	7.4 (7.1)
R <sub>work</sub> / R <sub>free</sub> (%)	17.72/22.93	
No. atoms		
Protein	6754	
main chain	3403	
side chain	3351	
Water	307	
Others	26	
Average B value (Å <sup>2</sup> )		
Protein	40.44	
main chain	36.78	
side chain	44.15	
Water	43.61	
Others	46.56	
R.m.s. deviations		
Bonds (Å)	0.017	
Angle (°)	1.836	
Ramachandran plot statistics (%)		
Most favourable	89.4	
Additionally allowed	9.9	
Generously allowed	0.7	
Disallowed	0.0	

Values in parentheses are for the highest resolution shell.  $R_{merge} = \frac{\sum_h \sum_i |I_{h,i} - I_h|}{\sum_h \sum_i I_{h,i}}$ , where  $I_h$  is the mean intensity of the  $i$  observations of symmetry related reflections of  $h$ .  $R = \frac{\sum |F_{obs} - F_{calc}|}{\sum F_{obs}}$ , where  $F_{calc}$  is the calculated protein structure factor from the atomic model (R<sub>free</sub> was calculated with 5% of the reflections selected).