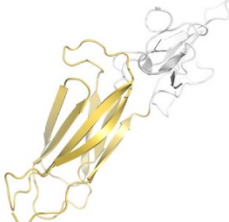



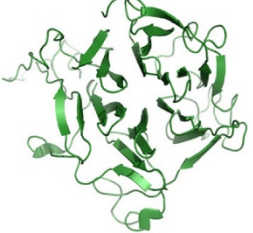

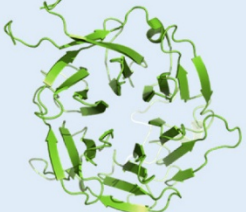
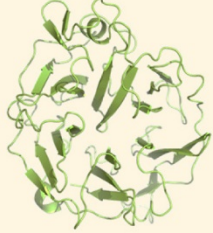
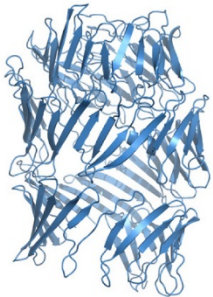
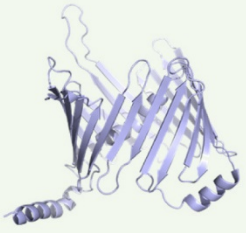
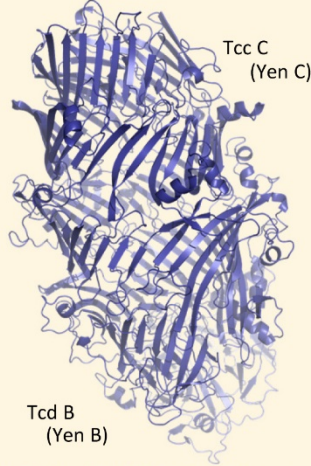
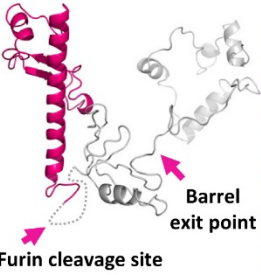
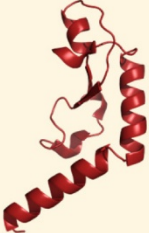


Table S1 | Related to Figure 1; Data collection and Model Refinement

Data collection	
Particles	426,107
Pixel size (Å)	1.00
Defocus range	-1.4 to -2.4
Voltage (kV)	300
Electron dose (e ⁻ /Å ²)	45
Refinement	
CC map_model	0.735
Model content	
Total number of atoms	10,138
No. of protein chains	1
No. of sugar modifications	8
Model quality	
RMSD	
Bond lengths (Å) / Bond angles (°)	0.01/0.9
Ramachandran plot statistics	
Most favored (%)	90.25
Outliers (%)	0.15
Rotamer outliers (%)	0.81
C-beta deviations	0
Clashscore	19.75
B_iso _{mean}	45.07

Table S2 | Related to Figures 1-2; Structural homologs of TEN2 domains

Domain structure (description)	Structural homologs (PDB ID, function)		
 <p>ECR2 (Ig-like domain)</p>	 <p>Monobody (5dc4, light chain Immunoglobulin)</p>	 <p>Furin-P-domain (1p8j, catalytic site stabilization of peptidase activity)</p>	 <p>TcA (4o9y, receptor binding domain D in ABC toxins)</p>
 <p>ECR3 (β-propeller)</p>	 <p>Olfactomedin-domain (2rmf, latrophilin3 ECR)</p>	 <p>Monooxygenase (3fvz, Glycine alpha-amidating lyase)</p>	 <p>TcC (4o9x, TcA binding domain in ABC toxins)</p>
 <p>ECR4 (YD-barrel)</p>	 <p>TOM40 (5o8o, Translocase of the Outer Mitochondrial membrane)</p>	 <p>TcB-C/Yenb-C (4o9x/4igl, ABC toxin encapsulation core)</p> <p>Tcc C (Yen C)</p> <p>Tcd B (Yen B)</p>	
 <p>ECR5 (TOX-GHH)</p> <p>Furin cleavage site</p> <p>Barrel exit point</p>	 <p>HNH endonuclease (5h0m, (tox-HNH), DNase)</p>		

TEN2 domains are presented to the left. Domain names and numbers are indicated below the structure. Structural homologs are highlighted to the right. ABC toxin homologs are indicated by a yellow background. Homologs with protease activity, suspected to be involved in TCAP processing, in blue. Additional homologs in green. PDB ID and protein functions are indicated in parenthesis.