

S6 | Uncharacterized putative components of membrane remodelling systems in archaea

arCOG number	System	representative	Lineage	Comment
ESCRT-III-based systems				
arCOG08707	ESCRT	Nmar_1089	Thaumoaarchaea	All alpha, one coiled-coil segment
arCOG07462	ESCRT	Smar_0480	Desulfurococcales	Alpha +beta, no coiled-coil segments
arCOG07220	ESCRT	SSO6716	Sulfolobales	Mixed alpha and beta, no coiled-coil segments
arCOG00731	ESCRT	SSO0620	Sulfolobales ^a	wHTH of ArsR family
arCOG07400	ESCRT	TVN0381	Thermoplasmatales	Mixed alpha and beta, no coiled-coil segments
arCOG08177	ESCRT	TGAM_0988	TMH ^b	Mixed alpha and beta, no coiled-coil segments
arCOG09748	ESCRT	TGAM_0987	TMH ^b	Three coiled-coil segments
arCOG06794	FtsZ-like	MA2712	PMH ^c	Membrane-associated GTPase
arCOG07815	FtsZ-like	MA2710	PMH ^c	Membrane-associated protein
arCOG07816	FtsZ-like	MA2713	PMH ^c	Mixed alpha and beta, no coiled-coil segments
Putative actin-based systems				
arCOG05582	Actin	PAE2275	Thermoproteales, Korarchaeon, Thaumarchaea	Mixed alpha and beta, no coiled-coil segments
arCOG05584	Actin	PAE2278	Thermoproteales	Mixed alpha and beta, with potential coiled-coil segment
arCOG07432	Actin	Pars_1812	Thermoproteales	Mixed alpha and beta, no coiled-coil segments
arCOG02900	Unknown	PTO0289	Many archaea	vWA domain containing protein
arCOG05338	Unknown	PTO0444	Thermoplasmatales	Mixed alpha and beta, with one coiled-coil segment

^a arCOG0731 is present also in a variety of other archaea, interestingly mostly in taxa where VPS4 ATPases were found, but specifically associated with Snf7-like genes only in Sulfolobales;

^b TMH – three Thermococci, two Methanocaldococcus species and in *Halomicrobium mukohataei*

^c PMH – *Pyrococcus abyssi*, two Methanosarcinas and two Halobacteria