

P051 Biochemical, structural and cellular characterization of ESCRT-III-like components in *Sulfolobus solfataricus*
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The Endosomal Sorting Complex Required for Transport (ESCRT) is an elaborate and ubiquitous eukaryotic protein sorting and trafficking system that directs the budding of intraluminal vesicles at the surface of endosomes. We have previously proposed that the *Sulfolobus solfataricus* AAA ATPase Sso0909 and the coiled-coil protein Sso0910 may be orthologs of the ESCRT-III subcomplex proteins Vps4 and Vps24, respectively (Hobel *et al*, 2008). Both *sso0909* and *sso0910* are co-transcribed with a third gene, *sso0911*, that encodes a crenarchaeal-specific α -helical protein. Moreover, there are three additional Vps24-homologs elsewhere on the genome, namely Sso0451, Sso0881 and Sso0619. We have expressed and purified all these proteins in an effort to characterize their biochemical, cellular and structural properties. Wild-type ATPase Sso0909 and an N-terminal deletion mutant Sso0909 Δ N behave both as dimers in solution; the ATPase-deficient mutant Sso0909^{E206A} apparently forms dodecameric, ring-shaped particles. Only the Sso0909 Δ N mutant exhibits a low, basal ATP hydrolysis activity. The crenarchaeal-specific Sso0911 protein forms gel-like filaments at low concentrations and the Vps24-homologs Sso0910, Sso0881 and Sso0619 appear monomeric in solution with a strong tendency to aggregate. All *Sulfolobus* ESCRT-like proteins seem to be associated with the cell membrane. Moreover, Sso0909, Sso0451 and Sso0881 were specifically detected in extracellular vesicles that are released by *S. solfataricus* during growth. We speculate that the generation of membrane vesicles in *Sulfolobus* might follow a process similar to that of eukaryotic endosomal budding.