Characterisation of ER membrane complex of *T. gondii*

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Efficient and highly controlled communication between organelles is critical for cell survival and homeostasis. membrane contact sites (MCS), a close apposition of organelles allowing for direct interaction between and positioning of organelles, have been intensively researched over the last decade. MCS are also present in apicomplexan parasites and several recent studies provided insight into the molecular players and functions.

ER membrane complex (EMC), a complex of up to 9 subunits, has been well characterised in yeast and mammalian cells including elucidation of the complex structure. EMC was shown to act as a protein insertase allowing for insertion of a subset of transmembrane proteins into the ER membrane. In addition, some studies proposed an additional role for some of the complex subunits as tethers within MCS. We set to investigate EMC role in *T. gondii*.

Majority of TgEMC subunits are larger than their human, yeast and even *Plasmodium* counterparts. All TgEMC subunits localise to the ER and all but one are essential for parasite survival. Endogenous tagging of two of the subunits, TgEMC3 and TgEMC4, revealed they are both present in a complex of expected TgEMC size. Their depletion resulted in disordered vacuoles 72hrs post TgEMC downregulation though ER morphology was not majorly disrupted. Proximity labelling revealed a list of candidates for insertion as well as potential interactors on other organelles, both of which we currently investigate.