Available Project:

Polycistronic transcription in Cryptosporidium

Cryptosporidium is an enigmatic apicomplexan protist pathogen. It has completely lost its ability to synthesize purines and pyrimidines and must rely completely on salvage in order to replicate its genome and express its genes. Whether it is correlation or causation, *Cryptosporidium* has evolved to have among the smallest genome sequences in the phylum at 9.12 Mb and ~4400 genes. Recently we identified polycistronic transcription in *C. parvum*. These polycistronic transcripts have been confirmed with multiple alternative measures including RT-PCR. They are not read-through artifacts. Polycistronic transcription has never been reported in the Apicomplexa until now. This soon to be NIH funded project will explore polycistronic transcription throughout the lifecycle of *Cryptosporidium* both in vitro and in organoids. The project involves two interdisciplinary collborations, one for work on organoids and a second, international collaboration to study translation of polycistronic transcripts.