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Deubiquitylase transcriptomics in Semliki Forest virus

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Alpha viruses are mosquito-transmitted RNA viruses which cause acute disease including mild febrile illness, rash, arthralgia and more severely, encephalitis. These include viruses such as Semliki Forest virus (SFV), Chikungunya virus (CHIKV), and Zika virus. In many cases no vaccines or antivirals are available. This project aims to examine any changes in the DUB transcriptome after viral infection: to identify cellular DUBs that are important in SFV infections and to characterize the role of such DUBs in the virus life cycle. There have been approximately 100 DUBs identified and classified but we have examined only 42. Three short time courses over the 2, 4, 6, 8 and 10 hr. time points and three long time course over the 12 and 24 hr. time points have been analyzed by qPCR. At short time course transcriptome level revealed: 7 out of 20 DUBs showed means significant different and 5 out of 7 DUBs showed significant decreasing whereas 2 out of 7 DUBs showed significant increasing post infection which are OTUD1 and USP6, using mean of ACTB and GAPDH. Finally the conclusion would be 20 DUBs showed means significant different increasing at 24 hr. whereas only 2 out of 7 DUBs showed significant increasing at 10 hours which are OTUD1 and USP6.

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