Australian National University

PUBLIC LECTURE

PhD exit seminar: Strain-specific genetic requirements for growth of vaccinia virus in culture

Thursday 8 May 1 – 2pm

Speaker

Bianca Dobson
PhD student, Tscharke Lab

Location

Slatyer Seminar Room
R.N. Robinson Building (Bldg 46),
Cunningham Close, ANU

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This lecture is free and open to the public

BSB event information:
biology.anu.edu.au/News/events-bsb.php

Poxviruses, including vaccinia virus, have large linear DNA genomes containing approximately 200 genes. Many of these genes contribute to virulence but are not required for growth in cell culture. My PhD project focused on strains of vaccinia virus that lack functional copies of multiple genes. An example is MVA, a candidate vaccine vector which is severely attenuated due to mutations acquired during several hundred rounds of serial passage *in vitro.* The genetic basis for the attenuation of MVA is unknown. By characterizing recombinant MVA strains previously shown to have improved replication on mammalian cells, I have mapped and characterized a gene which influences plaque formation, but not replication *in vitro.* This finding is important for future projects to map mutations responsible for the attenuation of MVA. I have also produced a set of vaccinia virus strains with large targeted deletions which remove up to 30% of annotated VACV genes. Analysis of these recombinants has revealed unexpected functional redundancy that protects viral replication *in vitro.*

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