Donnelly Centre TechTalks

Informal trainee-organized seminars and discussions to foster collaboration within the Donnelly Centre via the exchange of expertise and equipment for experimental techniques

Brown Lab DNA Replication Tool Kit: Looking at how cells respond to replication stress at the sub-cellular level

Brandon Ho, Grant Brown Lab

April 17, 2018, 4-5 PM

CCBR Red Room

DNA replication is an essential process of all eukaryotic cells, and impairment of a proper replication program results in genome instability and a multitude of diseases. DNA replication stress can occur when replicating forks encounter obstacles such as DNA lesions. The result is a highly coordinated checkpoint response that initiates several repair and protective programs to ensure faithful duplication and transmission of the genome. Replication and the replication checkpoint are highly stochastic, thus requiring single-cell and single-molecule analyses. Here, we present several methods to study how cells respond to replication stress at the sub-cellular level. By combining proteomic and microscopic tools, we can better assess the mechanisms that maintain replication integrity and are uncovering novel pathways in the replication checkpoint.

Donnelly Centre
Cellular & Biomolecular Research
UNIVERSITY OF TORONTO

DCGSA