



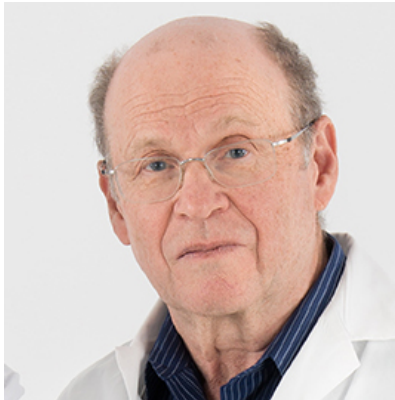
Department of Anatomy and Cell Biology

Hosted by Dr. Joaquin Ortega

“Translational Control of Cancer and Fragile-X via eIF4E”

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Translational control plays a critical role in essential cellular processes including cell growth, proliferation, development, and learning and memory. Under most circumstances, translational control is exerted at the initiation step in which the eukaryotic translation initiation factor 4E (eIF4E) interacts with the mRNA 5'cap structure to facilitate the recruitment of ribosomes and promote translation. Importantly, eIF4E preferentially stimulates the translation of a subset of mRNAs. The activity of eIF4E is regulated chiefly by two major signalling pathways: PI3K/Akt/mTOR and Ras/MAPK/Mnk. mTOR directly phosphorylates the 4E-BPs (eIF4E-binding proteins), which are inhibitors of eIF4E, to relieve translational suppression, while Mnk phosphorylates eIF4E to stimulate translation. Aberrations in these pathways result in dysregulated eIF4E activity, which engenders tumorigenesis and neurological disorders such as Fragile-X syndrome and autism.

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11:30 am

**Strathcona Anatomy Building
3640 University Street
Room 2/36**

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