DEPARTMENT OF CHEMISTRY AND ENVIRONMENTAL SCIENCE
SEMINAR SERIES
FALL 2019

DATE: WEDNESDAY, DECEMBER 4, 2019

LOCATION: TIERNAN HALL LECTURE 1

TIME: 1:00-2:20PM

GUEST SPEAKER

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Mount Sinai School of Medicine
New York, NY

TOPIC

Regulate Cullin-RING E3 Ubiquitin Ligases by Small Molecule Modulators

ABSTRACT

Cullin-RING E3 Ubiquitin (Ub) Ligases (CRLs) are the largest RING-type of E3 family consisting of ≈300 members, nearly half of E3s identified in humans. CRL targets many regulators critical for cell division and signaling. Canonical CRLs are modular complexes, in which the N-terminal domain of a cullin (CUL) subunit assembles interchangeably with different CUL-specific substrate receptors capable of binding a substrate. On the other hand, the C-terminal half of a CUL (CUL CTD) binds a RING finger protein, ROC1/RBX1 for CUL1-CUL4 or ROC2/RBX2 for CUL5, respectively, to form a core ligase complex. CRL's core ligase can collaborate with specific E2 conjugating enzymes for transferring ubiquitin to the bound substrate and polyubiquitination. I shall discuss our recent progress in targeting E3 CRLs using small small molecule modulators.

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