

# LifeSensors

from genomics to proteomics

Novel assays for characterizing Ubiquitin and Ubiquitin-like isopeptidase activity

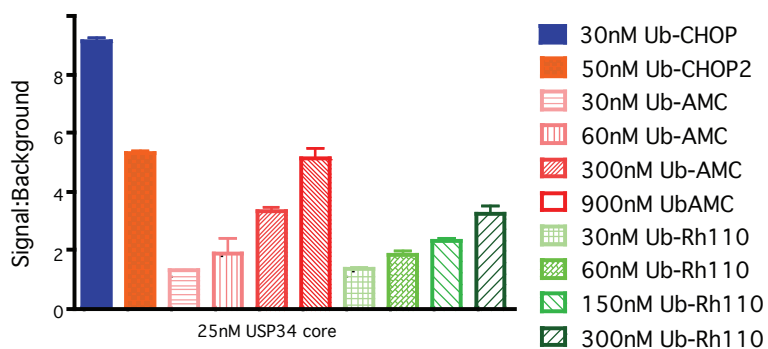
## CHOP REPORTER ASSAYS

ROBUST | SENSITIVE | EASY TO USE

**CHOP-Reporter technology offers a rapid and robust *in vitro* assay for ubiquitin and ubiquitin-like isopeptidase activity.**

The concept behind the Ub/Ubl-CHOP-Reporter Deconjugation Assay is the fusion of Ub/Ubl with reporter enzyme. The nature of this fusion renders the reporter enzyme catalytically inactive. Upon cleavage of the Ub/Ubl-fusion by an isopeptidase, the activated, free reporter enzyme acts upon its substrate and generates a fluorescent signal. Thus, in the coupled assay, the signal generated by cleavage of the reporter enzyme's substrate is a quantitative measure of isopeptidase activity. CHOP and CHOP2 platforms utilize different reporter enzymes making multiplexing possible.

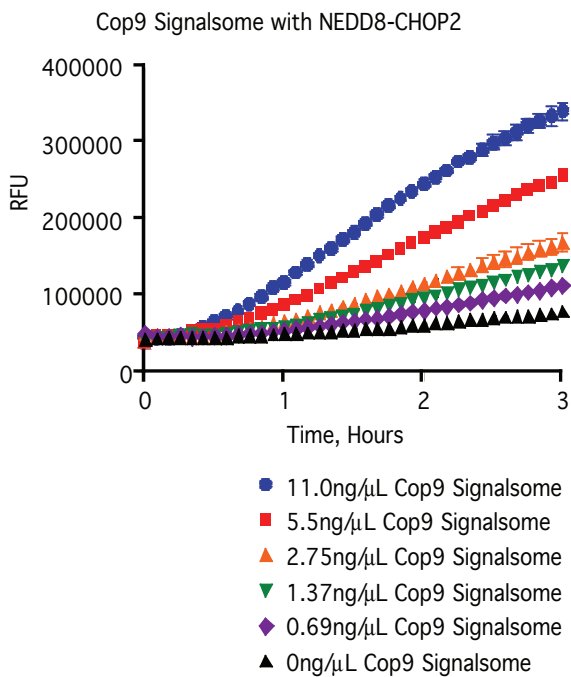
Improved sensitivity of CHOP assays compared to Ub-AMC & Ub-Rh110



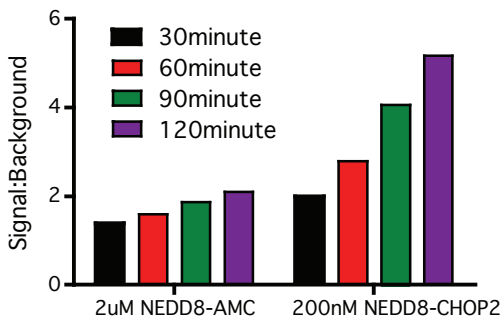
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## CHOP Technology enables HTS for Cop9 Signalsome



NEDD8-CHOP2 is a superior substrate compared to NEDD8-AMC



## CHOP: A Revolutionary & Superior Assay

Previous Ub/Ubl isopeptidase assays relied on the fusion of small chemical adducts to the C-terminus of the Ub/Ubl. In many cases this molecule is not recognized by the isopeptidase of interest. The CHOP assay platforms utilize protein fusions which are more physiologically relevant and can be recognized by isopeptidases that do not recognize other substrates. One example is the COP9 signalsome. The COP9 signalsome (CSN) is a highly conserved protein complex that was originally described as a repressor of light-dependent growth and transcription in Arabidopsis. CSN is a multi-subunit protease that regulates the activity of cullin-RING ligase (CRL) families of ubiquitin E3 complexes by removing NEDD8 from the E3 ligase. The CSN plays a crucial role in multiple cellular processes including the regulation of DNA damage repair, cell cycle progression, and gene expression. Until now there has not been a method for measuring the activity of CSN in a high-throughput manner. The NEDD8-CHOP2 assay is the first HT method for detecting CSN activity and will revolutionize the study of CSN activity. Refer to the figures on the left.

Cat #	Product	Description
PR1001	Ub-CHOP-Reporter	Deubiquitination Assay Kit
PR1002	SUMO3-CHOP-Reporter	Desumoylation Assay Kit
PR1003	Smt3-CHOP-Reporter	Desumoylation Assay Kit
PR1004	NEDD8-CHOP-Reporter	DeNEDDylation Assay Kit
PR1005	ISG15-CHOP-Reporter	DeISGenylation Assay Kit
PR1006	SUMO1-CHOP-Reporter	Desumoylation Assay Kit
PR1007	SUMO2-CHOP-Reporter	Desumoylation Assay Kit
PR1101	Ub-CHOP2-Reporter	Deubiquitination Assay Kit
PR1102	SUMO3-CHOP2-Reporter	Desumoylation Assay Kit
PR1104	NEDD8-CHOP2-Reporter	DeNEDDylation Assay Kit
PR1105	ISG15-CHOP2-Reporter	DeISGenylation Assay Kit