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CHOP Control Cell Extracts



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Controls for 10 western blots

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For Research Use Only. Not for Use in Diagnostic Procedures.

Product Includes	Product #	Quantity
CHOP Control Extracts (C2C12 Untreated)	32496	100 µl
CHOP Control Extracts (C2C12 +Thapsigargin)	54854	100 µl

Description

CHOP Control Cell Extracts (C2C12 Untreated): Total cell extracts from C2C12 cells serve as a negative control. Supplied in SDS Sample Buffer.

CHOP Control Cell Extracts (C2C12 +Thapsigargin): Total cell extracts from C2C12 cells treated with thapsigargin (300 nM, 2 hr) serve as a positive control.

This lysate pair is produced as a control for western blotting of CHOP and other ER Stress proteins.

Storage

Supplied in SDS Sample Buffer: 62.5 mM Tris- HCl (pH 6.8 at 25°C), 2% w/v SDS, 10% glycerol, 50 mM DTT, 0.01% w/v bromophenol blue or phenol red. Store at -20°C, or at -80°C for long-term storage.

Background

CHOP was identified as a C/EBP-homologous protein that inhibits C/EBP and LAP in a dominant-negative manner (1). CHOP expression is induced by certain cellular stresses including starvation and the induced CHOP suppresses cell cycle progression from G1 to S phase (2). Later it was shown that, during ER stress, the level of CHOP expression is elevated and CHOP functions to mediate programmed cell death (3). Studies also found that CHOP mediates the activation of GADD34 and Ero1-L α expression during ER stress. GADD34 in turn dephosphorylates phospho-Ser51 of eIF2 α thereby stimulating protein synthesis. Ero1-L α promotes oxidative stress inside the endoplasmic reticulum (ER) (4). The role of CHOP in the programmed cell death of ER-stressed cells is correlated with its role promoting protein synthesis and oxidative stress inside the ER (4).

Directions for Use

Boil for 3 minutes prior to use. Load 10 µl of untreated and thapsigargin treated CHOP Control Cell Extracts per lane.

Background References

1. Ron, D. and Habener, J.F. (1992) *Genes Dev* 6, 439-53.
2. Barone, M.V. et al. (1994) *Genes Dev* 8, 453-64.
3. Zinszner, H. et al. (1998) *Genes Dev* 12, 982-95.
4. Marciniak, S.J. et al. (2004) *Genes Dev* 18, 3066-77.

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