IPD Project Details

Project ID: IPD9154

Project Title: Cerulenin action on colon cancer cell line

Description: Showing the anti cancer activity of Cerulenin on colon cancer cell lines. The study shows the mechanismm of apoptosis induction as a result of cerulenin treatment to colon cancer cell lines.

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Sample Preparation: Freshly cultured cells of different conditions were taken in a sterilized vial; it was rinsed with 1X PBS to wash. Around 300 uL lysis buffer containing 8M Urea, 50 mM Tris pH 8.0, 75 mMNaCl, 1mM MgCl2 and 500 units of Benzonase was added the tissue sample was than sonicated, followed by bead biting to produce tissue extract. The debris was separated by centrifuging it at 8000rpm for 15mins at 40C. Supernatant was collected in a fresh sterile Eppendorf. QC check was performed by running in SDS PAGE and simultaneously concentration of the protein from tissue lysate was determined by using 2D Quant kit. Around 100mg of protein sample was taken 20mM of TCEP was added for reduction, followed by alkylation with 37.5mM of IAA.

Peptide Separation: Trypsinization was done by Pears trypsin in 1:30 ratio. Sample were dried after Trypsinization followed by desalting and MS run.

Protein Characterization: The raw datasets were processed with MaxQuant against UniProt Human Proteome Database and searched with the built-in Andromeda Search Engine of MaxQuant. The Orbitrap was set to Orbitrap Fusion mode.Trypsin was used for digestion with a maximum of 2 missed cleavages. Carbamidomethylation of Cysteine(+57.021464 Da) was set as the fixed modification, whereas oxidation of Methionine (+15.994915 Da) was set as the variable modification.

Experiment Type: Shotgun proteomics

Species: Homo sapiens - 9606

Tissue: Cell culture (bto:0000214)

Cell Type: Colon epithelial cell (cl:0011108)

Disease: Colon cancer (doid:219)

Instrument Details: Orbitrap Fusion (MS:1002416)

Protein Modifications: monohydroxylated residue, acetylated residue, iodoacetamide derivatized residue

PubMed ID: 36731020