Cycloheximide is a protein synthesis inhibitor in eukaryotes. Although its precise mechanism of action has yet to be fully elucidated, it has been shown to inhibit translation elongation through binding to the E-site of the 60S ribosomal unit and interfering with deacetylated tRNA (1-3). Although not all cell types are equally sensitive to the apoptosis-inducing effects of cycloheximide, it has been shown to induce cell death in T cells through a FADD-dependent mechanism (4). In addition, cycloheximide and Tumor Necrosis Factor possess a synergistic cytotoxicity (5,6), and consequently they are routinely used together to induce cell death. Investigators have demonstrated that cycloheximide blocks bortezomib-stimulated protein ubiquitination (7).

Molecular Formula: \( \text{C}_{15}\text{H}_{23}\text{NO}_{4} \)

Molecular Weight: 281.3 g/mol

Purity: >90%

CAS: 66-81-9

Solubility: Soluble in DMSO at 25mg/ml and in H2O at 20mg/ml.

Storage: Store lyophilized or in solution at -20°C, desiccated. Protect from light. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 3 months to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.

Directions for Use: Cycloheximide is supplied as a lyophilized powder. For a 10 mg/ml stock, carefully weigh out and reconstitute 50 mg in 5 ml DMSO or EtOH. Working concentrations and length of treatments vary depending on the desired effect, but it is typically used at 5-50 µg/ml for 4-24 hours. Soluble in DMSO, EtOH, or MeOH.

Wear personal protective equipment. Do not empty product into drains. Do not handle until all safety precautions have been read and understood.

Safety Information: Cycloheximide is suspected of causing genetic defects. It may cause adverse reproductive effects - such as birth defect, miscarriages, or infertility. Avoid contact during pregnancy and while nursing. If exposed or concerned, get medical advice. See Safety Data Sheet (SDS).

Background References:
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