

Product Data Sheet

Product Name: J14
Cat. No.: GC38803

Chemical Properties

Cas. No. 1043854-13-2

SMILES O=C(O)C1=CC=C(CSC2=NC(C3=CC=CC=C3)=CC(N4CCN(C5=CC=CC=C5Cl)CC4)=N2)C=C1

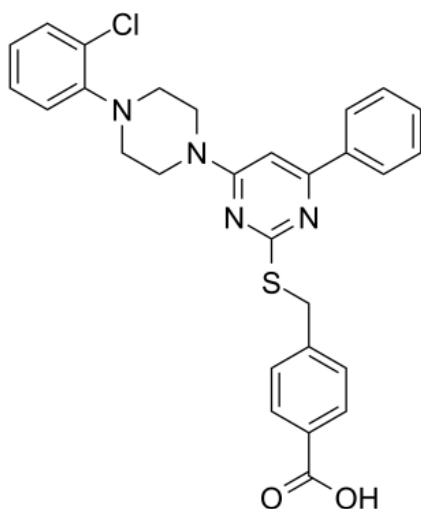
Formula C28H25ClN4O2S M.Wt 517.04

Solubility DMSO: 260 mg/mL (502.86 mM) Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

J14 is a reversible sulfiredoxin inhibitor with an IC₅₀ of 8.1 μM. J14 induces oxidative stress (intracellular ROS accumulation) by inhibiting sulfiredoxin, leading to cytotoxicity and cancer cell death[1].

J14 (0-100 μM; 0-96 hours; A549 cells) treatment inhibits the growth of A549 cells in a concentration- and a time- dependent manner, and its half inhibitory concentration for the growth of A549 cells was

Caution: Product has not been fully validated for medical applications. For research use only.

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15.7 μ M[1].J14 (20 μ M; 48-72 hours; A549 cells) treatment causes not only the release of cytochrome c into the cytosol, but also the activation of caspase-3 and caspase-9. J14 induces oxidative damage to mitochondria, resulting in caspase-mediated apoptosis[1].J14 treatment significantly increases the accumulation of sulfinic peroxiredoxins and intracellular ROS. Excess accumulation of intracellular ROS causes oxidative damage, leading to cell death. J14 significantly induces cell death in A549 cells in a time-dependent manner, resulting in approximately 40% cell death in 96 hours[1].J14 induces oxidative mitochondrial damage and apoptosis[1]. Cell Viability Assay[1] Cell Line: A549 cells

J14 (50 mg/kg; intraperitoneal injection; daily; for 16 days; BALB/c nude female mice) treatment significantly reduces the average tumor volume. The masses and weights of the primary tumors excised from the J14-treated mice are significantly lower compared with those of the control mice[1]. Animal Model: Six-week-old BALB/c nude female mice injected with A549 cells[1]

[1]. Kim H, et al. Sulfiredoxin inhibitor induces preferential death of cancer cells through reactive oxygen species-mediated mitochondrial damage. Free Radic Biol Med. 2016 Feb;91:264-74.

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