

Product Information

Geldanamycin-Biotin

Catalog Number **SML0985**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

CAS RN 1320265-38-0

Product Description

Molecular Formula: $\text{C}_{55}\text{H}_{87}\text{N}_7\text{O}_{17}\text{S}$
Formula Weight: 1,150.35

Geldanamycin is a benzoquinone ansamycin antitumor antibiotic.¹ Geldanamycin binds specifically to Hsp90 (Heat Shock Protein 90)² and to its endoplasmic reticulum homologue GP96.³ The Hsp90 chaperone is required for the activation of several families of eukaryotic protein kinases and nuclear hormone receptors, many of which are proto-oncogenic and play a prominent role in cancer. The geldanamycin antibiotic has antiproliferative and antitumor effects, as it binds to Hsp90, inhibits the Hsp90-mediated conformational maturation/refolding reaction, and results in the degradation of Hsp90 substrates.² Hsp90 also plays a key role in regulating the physiology of cells exposed to environmental stress and thus, geldanamycin interferes with cellular stress response.⁴

Geldanamycin was found to be a potent antibiotic active at nanomolar concentrations against 60 cell lines¹ as well as in mouse tumor models.⁵

It is an inhibitor of proto-oncogenic protein kinases, such as erbB2,⁶ EFG receptor tyrosine kinases,⁷ and non-receptor tyrosine kinases, such as v-src⁸ and Raf-1.⁹ In addition, it is a potent inhibitor of the nuclear hormone receptor family including the estrogen and androgen hormone receptors.^{10,11} In order to identify geldanamycin-binding proteins, biotinylated geldanamycin and avidin resins are used for affinity purification and isolation of these proteins.¹²

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

The product is soluble (3 mg/ml) in methanol, in DMSO (10 mg/ml), and insoluble in water.

Storage/Stability

It is recommended the product be stored desiccated and protected from light at $-20\text{ }^{\circ}\text{C}$. The product as supplied is stable for 5 years when stored properly.

Solutions in DMSO are stable for at least two weeks when stored at $-20\text{ }^{\circ}\text{C}$. Geldanamycin decomposes in acidic solution.

Related product

17-(Allylamino)-17-demethoxygeldanamycin (17-AAG), Catalog Number A8476, which is a less toxic analog

References

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