Geldanamycin-Biotin

Catalog Number: SML0985
Storage Temperature: –20 °C

CAS RN: 1320265-38-0

Product Description
Molecular Formula: C_{55}H_{87}N_{7}O_{17}S
Formula Weight: 1,150.35

Geldanamycin is a benzoquinone ansamycin antitumor antibiotic. It binds specifically to Hsp90 (Heat Shock Protein 90) and to its endoplasmic reticulum homologue GP96. 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. Hsp90 also plays a key role in regulating the physiology of cells exposed to environmental stress and thus, geldanamycin interferes with cellular stress response.

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

It is an inhibitor of proto-oncogenic protein kinases, such as erbB2, EFG receptor tyrosine kinases, and non-receptor tyrosine kinases, such as v-src and Raf-1. In addition, it is a potent inhibitor of the nuclear hormone receptor family including the estrogen and androgen hormone receptors. In order to identify geldanamycin-binding proteins, biotinylated geldanamycin and avidin resins are used for affinity purification and isolation of these proteins.

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 °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 °C. Geldanamycin decomposes in acidic solution.

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

References


