

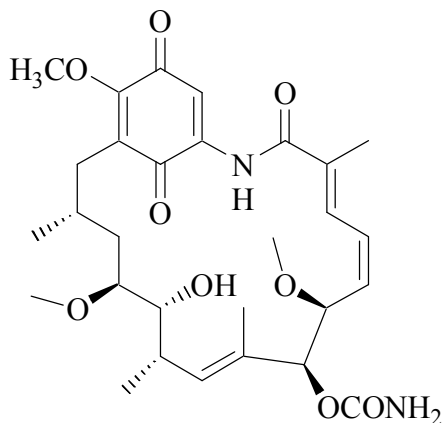
## Product Information

### Geldanamycin from *Streptomyces hygroscopicus*

Catalog Number **G3381**

Store at -20 °C

CAS RN: 30562-34-6



MW: 560.64

Molecular Formula: C<sub>29</sub>H<sub>40</sub>N<sub>2</sub>O<sub>9</sub>

#### Product Description

Geldanamycin is a benzoquinone ansamycin antitumor antibiotic.<sup>1</sup> Geldanamycin binds specifically to Hsp90 (Heat Shock Protein 90)<sup>2</sup> and to its endoplasmic reticulum homologue GP96.<sup>3</sup> 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.<sup>2</sup> Hsp90 also plays a key role in regulating the physiology of cells exposed to environmental stress and thus geldanamycin interferes with cellular stress response.<sup>4</sup>

Geldanamycin was found to be a potent antibiotic active at nanomolar concentrations against 60 cell lines<sup>1</sup> as well as in mouse tumor models.<sup>5</sup>

It is an inhibitor of proto-oncogenic protein kinases, such as erbB2<sup>6</sup>, EFG receptor tyrosine kinases<sup>7</sup> and

non receptor tyrosine kinases, such as v-src<sup>8</sup> and Raf-1.<sup>9</sup> In addition, it is a potent inhibitor of the nuclear hormone receptor family including the estrogen and androgen hormone receptors<sup>10,11</sup>.

#### Precautions and Disclaimer

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

#### Preparation Instructions

The product is soluble (5 mg/ml) in dichloromethane, yielding a clear yellow-orange solution. It is also soluble in DMSO (10 mg/ml). Insoluble in water

#### Storage/Stability

It is recommended that the product be stored desiccated and protected from light at -20 °C. The product as supplied is stable for 3 years when stored properly. Solutions in DMSO are stable for at least two weeks when stored at -20 °C. Decomposes in acidic solution.

#### Related product

17-(Allylamino)-17-demethoxygeldanamycin (17-AAG), Catalog No. A8476, which is a less toxic analog

#### References:

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5. Sasaki, K., et al., *J. Antibiot. (Tokyo)* **32**, 849-851 (1979).
6. Miller, P., et al., *Cancer Res.*, **54**, 2724-2730 (1994).
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10. Whitesell, L. and Cook, P., *Mol. Endocrinol.*, **10**, 705-712 (1996).

11. Smith, D.F., et al., *Mol. Cell Biol.*, **15**, 6804-12 (1995).

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