Revision 3

Store at -20C

#9843

Geldanamycin

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Background

Geldanamycin (GA) is a naturally existing HSP90 inhibitor that belongs to the benzoquinone ansamycin family. GA binds to the amino terminal ATP-binding pocket of HSP90 and inhibits ATP binding and hydrolysis. HSP90 is a chaperone interacting with a wide variety of important target proteins for cell signaling and regulation during tumorgenesis (1,2). The binding of GA to HSP90 interferes with HSP-mediated target protein folding, leading to target aggregation and degradation (1-3). GA and its synthetic derivatives show higher affinity to HSP90 in tumor cells as compared to normal tissues and constitute a class of protential antitumor drugs (2-3).

Molecular Formula

$C_{29}H_{40}N_2O_9$

Molecular Weight

560.64 g/mol

Purity

>99%

CAS

30562-34-6

Solubility

Soluble in DMSO at 10mg/ml.

Storage

Store lyophilized or in solution at -20ºC, desiccated. Protect from light. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 1 week to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.

Directions for Use

Geldanamycin is supplied as 600 µg powder. Store at or below -20ºC. Before usage, dissolve the chemical in 1.08 ml DMSO to make 1 mM Geldanamycin. For working concentrations of 300 nM-1 µM, dilute 1:3000 to 1:1000. Treat cells with the desired concentration for 20-48 hours. Store liquid form at or below -20ºC.

Background References

1. Ochel, H.J. et al. (2001) *Cell Stress Chaperones* 6, 105-112.
2. Sharp, S. and Workman, P. (2006) *Adv.Cancer Res.* 95, 323-348.
3. Kamal, A. et al. (2003) *Nature* 425, 407-410.

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Limited Uses

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