

Product Name:	Geldanamycin
Product Number:	G005
CAS Number:	30562-34-6
Molecular Formula:	$C_{29}H_{40}N_2O_9$
Molecular Weight:	560.64 g/mol
Form:	Powder
Appearance:	Yellow to orange powder
Solubility:	DMSO: Soluble Methanol: Soluble Methylene chloride: Soluble Water: 6.34 µg/mL
Source:	<i>Streptomyces Hygroscopicus</i>
Melting Point:	201-203°C
Storage Conditions:	-20 °C, protect from light
Description:	Geldanamycin is a benzoquinone anti-tumor agent which interacts with the stress induced chaperone protein Hsp90 (heat shock protein 90). Geldanamycin is insoluble in aqueous solution but soluble in DMSO and methanol.
Mechanism of Action:	Geldanamycin binds specifically to the heat shock protein Hsp90 and to its endoplasmic reticulum homologue GP96, and thus interferes with conformational maturation of proteins and the cellular stress response. In addition, it is a potent inhibitor of the nuclear hormone receptor family.
Cancer Applications	In normal cells, Hsp90 stabilizes and folds proteins, however, in tumor cells, Hsp90 activity helps stabilize mutated growth factor and signal proteins which facilitate tumor growth. To prevent this complication, geldanamycin binds to and inactivates Hsp90 in cancerous cells leading to degradation of cancer cell proteins.
References:	Eichhorn, Kai. "Geldanamycin: The Prototype of a Class of Antitumor Drugs Targeting the Heat Shock Protein 90 Family of Molecular Chaperones." <i>Cell/ Stress Chaperones</i> 6.2 (2001): 105-12. www.ncbi.gov . Web. 6 Sept. 2012.