

#9843 Store at -20°C

Geldanamycin



✓ 600 µg

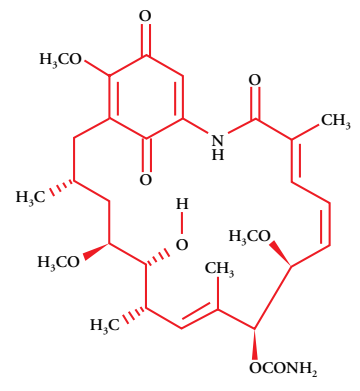
Orders ■ 877-616-CELL (2355)
orders@cellsignal.com
Support ■ 877-678-TECH (8324)
info@cellsignal.com
Web ■ www.cellsignal.com

New 01/08

This product is for *in vitro* research use only and is not intended for use in humans or animals.

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 tumorigenesis (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 potential antitumor drugs (2-3).

Molecular Formula: C₂₉H₄₀N₂O₉



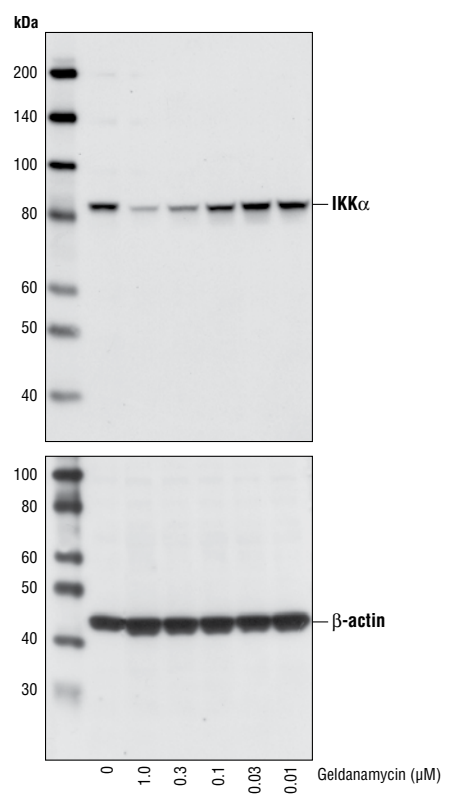
Molecular Weight: 560.64

Directions for Use: Geldanamycin is supplied as 600 µg powder. Store at or below -20°C. 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 -20°C.

Note: Geldanamycin is not stable in liquid form (quality decreased in 1-2 weeks). Use freshly dissolved geldanamycin each time.

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.



Western blot analysis of extracts from HEK293 cells, untreated or treated with indicated concentrations of Geldanamycin for 20 hours, using IKKα Antibody #2682 showing IKKα degradation (upper). β-Actin Antibody #4967 was used as a loading control (lower).

Storage: Store tightly sealed at -20°C.

Companion Products:

- Chk1 Antibody #2345
- IKKα Antibody #2682
- β-Actin Antibody #4967
- Prestained Protein Marker, Broad Range (Premixed Format) #7720
- Biotinylated Protein Ladder Detection Pack #7727
- 20X LumiGLO® Reagent and 20X Peroxide #7003
- Cell Lysis Buffer (10X) #9803
- Blue Loading Buffer Pack #7722

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Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry IC—Immunocytochemistry IF—Immunofluorescence F—Flow cytometry E—ELISA D—DELFIATM
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken X—Xenopus Z—zebra fish B—bovine All—all species expected
Species enclosed in parentheses are predicted to react based on 100% sequence homology.

Material Safety Data Sheet (MSDS) for Geldanamycin

I. Identification:

Product name: Geldanamycin
Product Catalog: 9843
CAS number: Not applicable to mixtures
Manufacturer Supplier: Cell Signaling Technology
 3 Trask Lane
 Danvers, MA 01923 USA
 978-867-2300 TEL
 978-867-2400 FAX
 978-578-6737 EMERGENCY TEL

II. Composition/Information:

Substance Name: Geldanamycin
Synonyms: NSC 122750 * U-29135
CAS#: 30562-34-6
Molecular Weight: 560.6
Molecular Formula: $C_{29}H_{40}N_2O_9$

III. Hazard Identification:

To the best of our knowledge, the chemical, physical, and toxicological properties of this solution have not been thoroughly investigated.

RTECS: LX8920000

EMERGENCY OVERVIEW: Data not available.

IV. First Aid Measures:

Inhalation: If inhaled, remove to fresh air. If breathing is difficult, get medical attention.

Ingestion: If swallowed, wash out mouth with water provided person is conscious. Get medical attention.

Skin exposure: In case of contact, immediately wash skin with soap and water for at least 15 minutes. Remove contaminated clothing. Wash clothing before reuse.

Eye exposure: In case of contact with eyes, immediately flush eyes with water for at least 15 minutes. Get medical attention.

V. Fire Fighting Measures:

Flash Point: Data not available.

Autoignition Temperature: Data not available.

Fire extinguishing media: Water spray, dry chemical, foam, or carbon dioxide.

Firefighting: Wear protective clothing and self-contained breathing apparatus to prevent contact with skin and eyes.

VI. Accidental Release Measures: Take appropriate precautions to minimize direct contact with skin, eyes, mucous membranes, and prevent inhalation of dust. Isolate the spill area. Wear approved self-contained breathing apparatus, protective clothing and chemical resistant gloves. Sweep up carefully to avoid raising dust and transfer to a chemical waste container for disposal according to local, state, and federal regulations. Ventilate area and wash spill site after material pickup is complete. Do not let substance enter drains.

VII. Handling And Storage:

Storage: Store in tightly closed container at -20°C.

Avoid contact with skin, eyes, mucous membranes and respiratory system. Wash hands thoroughly after handling.

VIII. Exposure Controls/Personal: Occupational exposure limits not found.

Ventilation System: A system of local and/or general exhaust is recommended.

Skin Protection: Wear compatible chemical resistant gloves and protective clothing.

Eye protection: Wear protective safety glasses. Maintain eye wash fountain and quick-drench facilities in work area.

IX. Physical And Chemical Properties

Appearance: solid
Color: yellow
Odor: none
Boiling Point: data not available
Melting Point: data not available
Ignition temperature: data not available
Volatile Organic Compounds: data not available
pH: data not available
Solubility: soluble in DMSO

X. Stability and Reactivity:

Stability: Stable under recommended storage conditions.

Conditions to avoid: Protect from light.

Materials to avoid: Strong oxidizing agents.

Hazardous Decomposition: Carbon oxides, sulfur oxides, nitrogen oxides.

Hazardous exothermic reactions: During fire conditions if may produce toxic gases such as carbon monoxide, carbon dioxide.

XI. Toxicological Information: To the best of our knowledge, the chemical, physical, and toxicological properties of this solution have not been thoroughly investigated.

RTECS# LX8920000: May be irritant.

Acute Effects: Data not available.

Primary Effects: Data not available. May be an irritant to eyes, skin, respiratory system.

Chronic Effects: Data not available.

XII. Ecological Information: Data not available for this product.

XIII. Disposal Considerations: Dispose of in accordance with federal, state, local environmental regulations.

XIV. Transport Information:

DOT : Proper Shipping Name: None.

This substance is considered non-hazardous for transport.

IATA : Proper Shipping Name: None.

This substance is considered non-hazardous for air transport.

XV. Regulatory Information:

EU Regulations/Classifications/Labeling Information: Not available for this product.

US Regulatory Information:
 Not SARA listed.

XVI. Other Information:

This product is not intended for use in humans. To the best of our knowledge, this document is accurate. It is intended to serve as a guide for safe use of this product in a laboratory setting by experienced personnel. The burden of safe use of this material rests entirely with the user. The above information is believed to be accurate but is not necessarily all-inclusive and shall be used only as a guide. Cell Signaling Technology, Inc., shall not be held liable for any damage resulting from the handling of or from contact with the above product.