

## AR03025PU-L

## Geldanamycin - Purified

### Alternate names:

Hsp90 inhibitor

### Quantity:

5 mg

### Background:

Geldanamycin is a benzoquinoid ansamycin produced by *Streptomyces hygroscopicus*. It binds specifically to heat shock protein HSP90 and downregulates target proteins including tyrosine kinases, steroid receptors, transcription factors and cell cycle regulatory kinases (1,2). It induces the inactivation, destabilization and eventual degradation of HIF-1 $\alpha$  (3).

It is also an inhibitor of pp60src tyrosine kinase and of c-myc gene expression in murine lymphoblastoma cells. It inhibits the transforming activity of abl, erbB, fps, src, and yes (4).

Geldanamycin is capable of destabilizing several oncogene and proto-oncogene products; it is a potent inhibitor of the nuclear hormone receptor family (5). It protects against  $\alpha$ -synuclein toxicity to dopaminergic neurons in *Drosophila*, and destabilizes mutant p53 protein from a number of breast, leukemic, and prostate cell lines (6). Inhibits basal and hypoxia-induced expression of c-Jun (IC<sub>50</sub>=75nM) and abolishes hypoxia-induced increase in c-Jun N-terminal kinase (JNK) activity. Inhibits telomerase activity through inhibition of HSP90, a chaperone required for the assembly and activation of telomerase in human cells (6). It is ~10- fold more potent than herbimycin A.

### Format:

**State:** Yellow solid, produced by fermentation

**Purity:** >95% > 95 %

**Reconstitution:** Slightly soluble in methanol, chloroform or DMSO (10 mg/ml); insoluble in water.

### Description:

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

**Molecular weight:** 560.6 560.6

### Storage:

Store the antibody (in aliquots) at -20 °C. Can be shipped at 2 - 8 °C.

Avoid repeated freezing and thawing.

Protect from light!

Shelf life: One year from despatch.

### General Readings:

- Whitesell L., et al. (1994) *Proc. Natl. Acad. Sci. USA* 91:8324.
- Neckers L. (2002) *Trends Mol. Med.* 8: S55.
- Mabjeesh N.J., et al. (2002) *Cancer Res.* 62: 2478.
- Chavany C., et al. 1996) *Amer. Society Biochem Mol Bio.* 9: 4974-4977.
- Villa R., et al. (2003) *Carcinogenesis.* 24(5): 851-9.
- Yamaki H., Iguchi-Ariga S.M., and Ariga H. (1989) *J Antibiot (Tokyo)* 42(4): 604-10.

Pictures:

Figure 1: Structure of Geldanamycin

