PRODUCT INFORMATION

Herbimycin A
Item No. 15504

CAS Registry No.: 70563-58-5
Formal Name: 17-demethoxy-15R-methoxy-11-O-methyl-geldanamycin
Synonyms: Antibiotic TAN 420F, NSC 305978
MF: C30H42N2O9
FW: 574.7
Purity: ≥99%
Supplied as: A lyophilisate
Storage: -20°C
Stability: ≥2 years
Item Origin: Bacterium/Streptomyces sp.

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Herbimycin A is supplied as a lyophilisate. A stock solution may be made by dissolving the herbimycin A in the solvent of choice. Herbimycin A is soluble in organic solvents such as ethanol, DMSO, dimethyl formamide, and methanol, which should be purged with an inert gas.

Herbimycin A is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations.

Description

Herbimycin A is a benzoquinone ansamycin antibiotic from Streptomyces.1 It has herbicidal activity and acts as a cell-permeable inhibitor of non-receptor tyrosine kinases and the heat shock protein Hsp90.1-3 Herbimycin A inhibits Bcr-Abl with an IC50 value of 5 μM, a concentration that also effectively blocks Src, Yes, Fps, Ros, and ErbB but not protein kinases (PK) PKA, PKC, Rac, Myc, or Raf.2,4 Presumably through its effects on tyrosine kinase signaling, herbimycin A also impairs endothelial cell proliferation in the context of angiogenesis, NF-κB activation, phosphorylation of phospholipase C-γ1, and eggshell formation in schistosome parasites.5-8 Ansamycins, including herbimycin A and geldanamycin (Item No. 13355), bind Hsp90 and destabilize client proteins, including Src, Bcr-Abl, and ErbB2, leading to their ubiquitination and proteasomal degradation.3,9

Reference