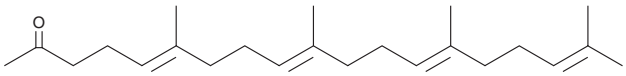
PRODUCT INFORMATION

Geranylgeranylacetone

Item No. 20218

CAS Registry No.:	6809-52-5
Formal Name:	6,10,14,18-tetramethyl-5,9,13,17-nonadecatetraen-2-one
Synonym:	Teprenone
MF:	$C_{23}H_{38}O$
FW:	330.6
Purity:	≥98% (mixture of isomers)
Supplied as:	A solution in ethanol
Storage:	-80°C
Stability:	≥2 years



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

Laboratory Procedures

Geranylgeranylacetone is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of geranylgeranylacetone in these solvents is approximately 30 mg/ml.

Geranylgeranylacetone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of geranylgeranylacetone should be diluted with the aqueous buffer of choice. Geranylgeranylacetone has a solubility of approximately 0.33 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Geranylgeranylacetone is an inducer of heat shock protein (Hsp) expression that has been shown to increase Hsp70 (also known as Hsp72 and HspA1A), Hsp22 (HspB8), Hsp27 (HspB1), Hsp90 (HspC), and Hsp105 (HspH1) levels in various cells and tissues.[1-3] It is orally bioavailable and has diverse effects *in vivo*, including hepatoprotective, neuroprotective, and antiulcerative effects.[4,5] The effects of geranylgeranylacetone on Hsp expression are more pronounced under stress conditions.[2]

References

1. Fudaba, Y., Tashiro, H., Ohdan, H., *et al.* Efficacy of HSP72 induction in rat liver by orally administered geranylgeranylacetone. *Transpl. Int.* **13(Suppl 1)**, S278-S281 (2000).
2. Katsuno, M., Sang, C., Adachi, H., *et al.* Pharmacological induction of heat-shock proteins alleviates polyglutamine-mediated motor neuron disease. *Proc. Natl. Acad. Sci. USA* **102(46)**, 16801-16806 (2005).
3. Marunouchi, T., Inomata, S., Sanbe, A., *et al.* Protective effect of geranylgeranylacetone via enhanced induction of HSPB1 and HSPB8 in mitochondria of the failing heart following myocardial infarction in rats. *Eur. J. Pharmacol.* **730**, 140-147 (2014).
4. He, W., Zhuang, Y., Wang, L., *et al.* Geranylgeranylacetone attenuates hepatic fibrosis by increasing the expression of heat shock protein 70. *Mol. Med. Rep.* **12(4)**, 4895-4900 (2015).
5. Kawasaki, Y., Fujiki, M., Uchida, S., *et al.* A single oral dose of geranylgeranylacetone upregulates vascular endothelial growth factor and protects against kainic acid-induced neuronal cell death: Involvement of the phosphatidylinositol-3 kinase/Akt pathway. *Pathobiology* (2017).

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