

Small Molecules

Anacardic Acid

Epigenetic modifier; Inhibits histone acetyltransferase (HAT)

Catalog # 73192
73194

1 mg
5 mg



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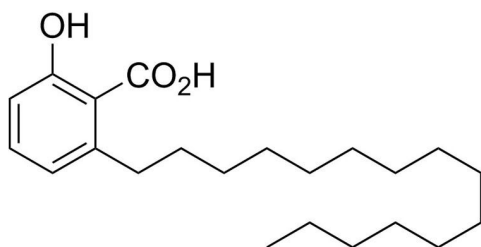
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Product Description

Anacardic Acid is a 6-alkyl salicylic acid that inhibits the histone acetyltransferase (HAT) activity of the transcription co-activators p300 and p300/CREB-binding protein-associated factor (pCAF; IC₅₀ values of 8.5 and 5 μ M, respectively; Balasubramanyam et al.). Anacardic Acid inhibits HAT-dependent transcription and protein SUMOylation (Cui et al.; Fukuda et al.). In addition, Anacardic Acid is an activator of Aurora kinase A-mediated phosphorylation of Histone H3 (Kishore et al.). At higher concentrations (25 μ M), Anacardic Acid suppresses NF- κ B activation and inhibits I κ B- α phosphorylation (Sung et al.).

Molecular Name:	Anacardic Acid
Alternative Names:	Not applicable
CAS Number:	16611-84-0
Chemical Formula:	C ₂₂ H ₃₆ O ₃
Molecular Weight:	348.5 g/mol
Purity:	≥ 98%
Chemical Name:	2-hydroxy-6-pentadecylbenzoic acid
Structure:	



Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect product from prolonged exposure to light. For long-term storage store with a desiccant. For product expiry date, please contact techsupport@stemcell.com .
Solubility:	· DMSO ≤ 25 mM · Absolute ethanol ≤ 25 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 287 μ L of DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

DIFFERENTIATION

- Enhances cardiomyocyte differentiation from mouse embryonic stem cells (Re et al.).

IMMUNOLOGY

- Induces macrophage activation (Gnanaprakasam et al.).
- Exhibits inhibitory and bactericidal activities against methicillin-resistant *Staphylococcus aureus* (Muroi & Kubo).

CANCER RESEARCH

- Potentiates the apoptosis induced by cytokine and chemotherapeutic agents in cancer cells (Sung et al.).
- Sensitizes tumor cells to ionizing radiation in vitro (Sun et al.).

References

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- Gnanaprakasam JN et al. (2015) The anacardic 6-pentadecyl salicylic acid induces macrophage activation via the phosphorylation of ERK1/2, JNK, P38 kinases and NF- κ B. *Int Immunopharmacol* 29(2): 808–17.
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- Re A et al. (2015) Anacardic acid and thyroid hormone enhance cardiomyocytes production from undifferentiated mouse ES cells along functionally distinct pathways. *Endocrine*. Epub ahead of print, DOI: 10.1007/s12020-015-0751-2.
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