

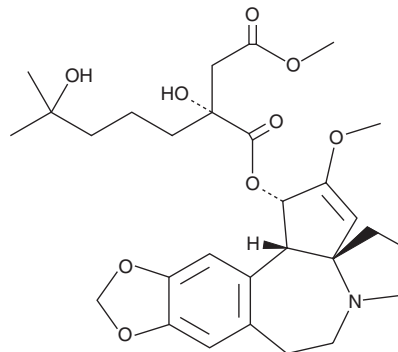
PRODUCT INFORMATION



Homoharringtonine

Item No. 14631

CAS Registry No.:	26833-87-4
Formal Name:	3-[4-methyl (2R)-2-hydroxy-2-(4-hydroxy-4-methylpentyl)butanedioate]cephalotaxine
Synonyms:	NSC 141633, Omacetaxine Mepesuccinate
MF:	C ₂₉ H ₃₉ NO ₉
FW:	545.6
Purity:	≥98%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/Cedar bark



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

Laboratory Procedures

Homoharringtonine is supplied as a crystalline solid. A stock solution may be made by dissolving the homoharringtonine in the solvent of choice, which should be purged with an inert gas. Homoharringtonine is soluble in organic solvents such as ethanol and DMSO. The solubility of homoharringtonine in these solvents is approximately 25 and 50 mg/ml, respectively.

Description

Homoharringtonine is an alkaloid originally isolated from *C. harringtonia* and a homolog of harringtonine (Item No. 15361) that has diverse biological activities including protein synthesis inhibitory, antiviral, antiparasitic, and anticancer properties.¹ Homoharringtonine inhibits the chain elongation phase of translation in eukaryotes.² It inhibits diphenylalanine formation by rabbit reticulocyte and human placental ribosomes in cell-free assays and binds to human 80S ribosomes ($K_d = 39$ nM). Homoharringtonine is active against coronaviruses, reducing the viral load *in vitro* and *in vivo* and prevents severe symptoms in porcine and chicken models of porcine epidemic diarrhea virus (PEDV) and Newcastle disease virus (NDV), respectively.³ It reduces the infectious virus yield and viral RNA copy numbers in the culture supernatant of Vero E6 cells infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (EC_{50} s = 2.55 and 2.14 μ M, respectively).⁴ It also inhibits the growth of *P. falciparum* in cultured in human erythrocytes ($IC_{50} = 4$ nM).⁵ Homoharringtonine is cytotoxic and inhibits the proliferation of Jurkat acute T cell leukemia ($IC_{50} = 9$ nM) and K562 chronic myelogenous leukemia (CML) cells ($IC_{50} = 408$ μ g/ml).^{6,7} *In vivo*, it decreases the number of peripheral leukemia stem cells and increases survival in CML and B cell acute lymphoblastic leukemia (B-ALL) mouse models when administered at a dose of 0.5 mg/kg.⁸ Formulations containing homoharringtonine have been used in the treatment of CML in patients with resistance and/or intolerance to two or more tyrosine kinase inhibitors.

References

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WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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