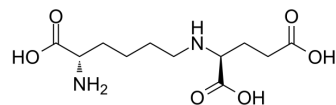


Saccharopine

Cat. No.:	HY-W040307
CAS No.:	997-68-2
Molecular Formula:	C ₁₁ H ₂₀ N ₂ O ₆
Molecular Weight:	276.29
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Saccharopine (L-Saccharopine), a lysine degradation intermediate, is a mitochondrial toxin. Lysine and α -ketoglutarate are converted into Saccharopine by the lysine-ketoglutarate reductase. Saccharopine is then oxidized to α -aminoapipate semialdehyde and glutamate by the saccharopine dehydrogenase. Saccharopine impairs development by disrupting mitochondrial homeostasis ^{[1][2][3]} .
In Vitro	Saccharopine accumulation leads to mitochondrial damage and functional loss which is induced by saccharopine dehydrogenase (SDH) mutations of α -aminoapipate semialdehyde synthase (AASS)-1 in <i>C. elegans</i> ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Saccharopine accumulation induces mitochondrial damage and progressive postnatal growth retardation in Aass mutant mice ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Zhou J, et, al. The lysine catabolite saccharopine impairs development by disrupting mitochondrial homeostasis. *J Cell Biol.* 2019 Feb 4;218(2):580-597.
- [2]. Leandro J, et, al. Saccharopine, a lysine degradation intermediate, is a mitochondrial toxin. *J Cell Biol.* 2019 Feb 4;218(2):391-392.
- [3]. Papes F, et, al. Lysine degradation through the saccharopine pathway in mammals: involvement of both bifunctional and monofunctional lysine-degrading enzymes in mouse. *Biochem J.* 1999 Dec 1;344 Pt 2(Pt 2):555-63.

Caution: Product has not been fully validated for medical applications. For research use only.

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