

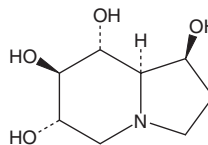
PRODUCT INFORMATION



Castanospermine

Item No. 11313

CAS Registry No.: 79831-76-8
Formal Name: (8aR)-octahydro-1S,6S,7R,8R-indolizinetetrol
Synonyms: 6,7-Diepicastanospermine,
6-Epicastanospermine, NSC 625381,
1,6,7,8-Tetrahydroxyoctahydroindolizine
MF: C₈H₁₅NO₄
FW: 189.2
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Castanospermine is supplied as a crystalline solid. A stock solution may be made by dissolving the castanospermine in the solvent of choice, which should be purged with an inert gas. Castanospermine is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of castanospermine in these solvents is approximately 10 and 0.1 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of castanospermine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of castanospermine in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Glucosidases catalyze the cleavage of individual glucosyl residues from various glycoconjugates, including complex carbohydrates and glycoproteins. Castanospermine is an inhibitor of both α - and β -glucosidases, inhibiting lysosomal and neutral α -glucosidases with K_i values of 0.1 and 10 μ M, respectively, and lysosomal and cytosolic β -glucosidases with K_i values of 7 and 40 μ M, respectively.¹ It is effective both *in vitro* and *in vivo*.^{2,3} Through its effects on glucosidases, castanospermine blocks N-linked glycosylation during post-translational modification of proteins, affecting protein trafficking and cell functions that are dependent on glycosylation, including angiogenesis.^{3,4} Castanospermine also interferes with viral replication and infection that is dependent on glucosidase activity.⁵⁻⁷

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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