

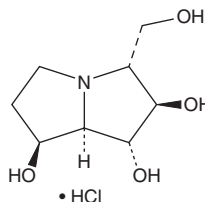
# PRODUCT INFORMATION



## Australine (hydrochloride)

Item No. 30051

**CAS Registry No.:** 186766-07-4  
**Formal Name:** (1R,2R,3R,7S,7aR)-hexahydro-3-(hydroxymethyl)-1H-pyrrolizine-1,2,7-triol, monohydrochloride  
**Synonyms:** 7a-*epi*-Alexine, (+)-Australine  
**MF:** C<sub>8</sub>H<sub>15</sub>NO<sub>4</sub> • HCl  
**FW:** 225.7  
**Purity:** ≥95%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Synthetic



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

### Laboratory Procedures

Australine is supplied as a crystalline solid. A stock solution may be made by dissolving the australine in water. The solubility of australine in water is approximately 20 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Australine is a pyrrolizidine alkaloid originally isolated from *C. australe* that has enzyme inhibitory activities.<sup>1,2,3</sup> It is an inhibitor of glucoamylase (IC<sub>50</sub> = 5.8 μM) that also inhibits glucosidase I, sucrase, maltase, and *A. niger* α-glucosidase (IC<sub>50</sub>s = 20, 28, 35, and 28 μM, respectively).<sup>2,3</sup> Australine is selective for these enzymes over glucosidase II, α- and β-mannosidase, and α- and β-galactosidase up to 500 μM, β-glucosidase, with only 5% inhibition at 66 μM, as well as isomaltase and trehalase (IC<sub>50</sub> = 97 and 160 μM, respectively). Australine (500 μg/ml) inhibits glycoprotein processing of viral glycoproteins in influenza virus-infected MDCK cells and induces the accumulation of glycoproteins.<sup>2</sup>

### References

1. Molyneux, R.J., Benson, M., Wong, R.Y., *et al.* Australine, a novel pyrrolizidine alkaloid glucosidase inhibitor from *Castanospermum australe*. *J. Nat. Prod.* **51**(6), 1198-1206 (1988).
2. Tropea, J.E., Molyneux, R.J., Kaushal, G.P., *et al.* Australine, a pyrrolizidine alkaloid that inhibits amyloglucosidase and glycoprotein processing. *Biochemistry* **28**(5), 2027-2034 (1989).
3. Kato, A., Kano, E., Adachi, I., *et al.* Australine and related alkaloids: Easy structural confirmation by <sup>13</sup>C NMR spectral data and biological activities. *Tetrahedron Asymmetry* **14**(3), 325-331 (2003).

#### 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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