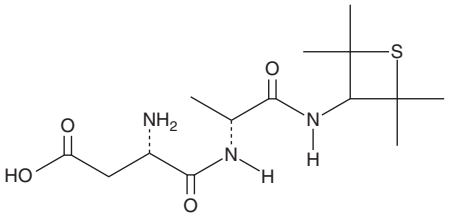
PRODUCT INFORMATION

Alitame

Item No. 36267

CAS Registry No.:	80863-62-3
Formal Name:	L-α-aspartyl-N-(2,2,4,4-tetramethyl-3-thietanyl)-D-alaninamide
Synonym:	CP 54,802
MF:	$C_{14}H_{25}N_3O_4S$
FW:	331.4
Purity:	≥95%
Supplied as:	A 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

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

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 alitame can be prepared by directly dissolving the solid in aqueous buffers. The solubility of alitame in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Alitame is a synthetic dipeptide non-caloric sweetener.[1,2] It binds to the Venus fly trap domain of the class 1 sweet taste receptor subunit TAS1R2 (K_d = 0.15 µM for the recombinant human receptor).[1] It substitutes for sucrose in the two-bottle preference test in non-human primates.[2] Formulations containing alitame have been used as sweetening agents and flavor enhancers in foods and beverages.

References

1. Laffitte, A., Belloir, C., Neiers, F., *et al.* Functional characterization of the Venus flytrap domain of the human TAS1R2 sweet taste receptor. *Int. J. Mol. Sci.* **23(16)**, 9216 (2022).
2. Glaser, D., Tinti, J.M., and Nofre, C. Evolution of the sweetness receptor in primates. I. Why does alitame taste sweet in all prosimians and simians, and aspartame only in Old World simians? *Clinical Trial* **20(5)**, 573-584 (1995).

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