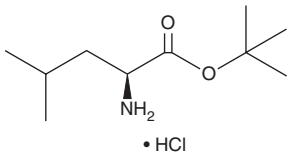
PRODUCT INFORMATION

H-Leu-O*t*Bu (hydrochloride)

Item No. 30529

CAS Registry No.: 2748-02-9
Formal Name: L-leucine, 1,1-dimethylethyl ester, monohydrochloride
Synonyms: L-Leucine *t*-butyl ester, L-Leucine *tert*-butyl ester
MF: $C_{10}H_{21}NO_2 \bullet HCl$
FW: 223.7
Purity: ≥95%
UV/Vis.: λ_{max}: 213 nm
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

H-Leu-O*t*Bu (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the H-Leu-O*t*Bu (hydrochloride) in the solvent of choice, which should be purged with an inert gas. H-Leu-O*t*Bu (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of H-Leu-O*t*Bu (hydrochloride) in these solvents is approximately 30 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 H-Leu-O*t*Bu (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of H-Leu-O*t*Bu (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

H-Leu-O*t*Bu is a leucine ester and an amino acid-containing building block.[1,2] It increases phosphorylation of the mTORC1 substrate p70 ribosomal S6 kinase (p70S6K) and inhibits L-[^{14}C]leucine uptake into HeLa S3 cells endogenously expressing L-type amino acid transporter 1 (LAT1) when used at concentrations of 0.4 and 1 mM, respectively.[2] H-Leu-O*t*Bu has been used in the synthesis of peptide-based ligands of the neurokinin-1 (NK_1) receptor.[1]

References

1. Millet, R., Goossens, J.-F., Bertrand-Caumont, K., *et al.* Synthesis and biological evaluation of tripeptide derivatives of Cbz-Gly-Leu-Trp-OBzl$(CF_3)_2$ as NK_1/NK_2 ligands. *Lett. Pept. Sci.* **6**, 255-262 (1999).
2. Nagamori, S., Wiriyasermkul, P., Okuda, S., *et al.* Structure-activity relations of leucine derivatives reveal critical moieties for cellular uptake and activation of mTORC1-mediated signaling. *Amino Acids* **48(4)**, 1045-1058 (2016).

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