

PRODUCT INFORMATION



Larazotide (acetate)

Item No. 43008

CAS Registry No.: 881851-50-9

Formal Name: glycylglycyl-L-valyl-L-leucyl-L-valyl-L-glutaminy-L-prolyl-glycine, monoacetate salt

Synonyms: AT-1001,
Gly-Gly-Val-Leu-Val-Gln-Pro-Gly

Peptide Sequence: GGVLVQPG

MF: $C_{32}H_{55}N_9O_{10} \cdot C_2H_4O_2$

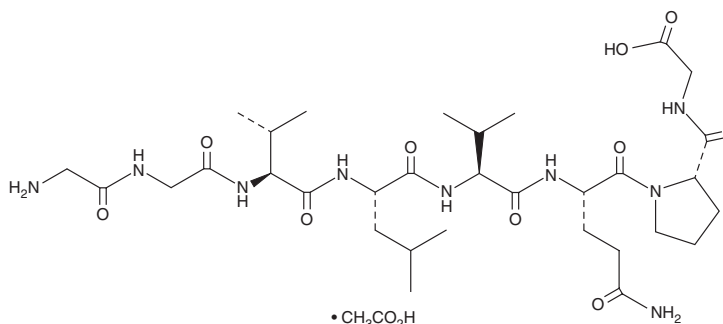
FW: 785.9

Purity: $\geq 98\%$

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

Larazotide (acetate) is supplied as a solid. A stock solution may be made by dissolving the larazotide (acetate) in the solvent of choice, which should be purged with an inert gas. Larazotide (acetate) is sparingly soluble (1-10 mg/ml) in DMSO.

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 larazotide (acetate) can be prepared by directly dissolving the solid in aqueous buffers. Larazotide (acetate) is sparingly soluble (1-10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

Larazotide is a peptide antagonist of $\alpha 3\beta 4$ subunit-containing nicotinic acetylcholine receptors (nAChRs).¹ It selectively inhibits epibatidine-induced calcium mobilization in HEK293 cells expressing human $\alpha 3\beta 4$ subunit-containing nAChRs over HEK293 cells expressing $\alpha 4\beta 2$ subunit-containing nAChRs ($IC_{50} = 91$ and 276 nM, respectively). Larazotide ($100 \mu\text{M}$) decreases inflammatory cytokine-induced tight junction dysfunction in isolated rat intestinal epithelial cells.² *In vivo*, larazotide (0.3 , 3 , and $30 \mu\text{g/kg}$) inhibits nicotine self-administration and varenicline-induced reinstatement of nicotine-seeking behavior in rats. It also increases intestinal epithelial cell bridging and decreases intestinal damage without reducing liver damage in a rat model of thioacetamide-induced acute liver failure.³

References

1. Cippitelli, A., Wu, J., Gaiolini, K.A., *et al.* AT-1001: A high-affinity $\alpha 3\beta 4$ nAChR ligand with novel nicotine-suppressive pharmacology. *Br. J. Pharmacol.* **172**(7), 1834-1845 (2015).
2. Khaleghi, S., Ju, J.M., Lamba, A., *et al.* The potential utility of tight junction regulation in celiac disease: focus on larazotide acetate. *Therap. Adv. Gastroenterol.* **9**(1), 37-49 (2016).
3. Caliskan, A.R., Gul, M., Yilmaz, I., *et al.* Effects of larazotide acetate, a tight junction regulator, on the liver and intestinal damage in acute liver failure in rats. *Hum. Exp. Toxicol.* **40** (12 suppl), S693-S701 (2021).

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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