

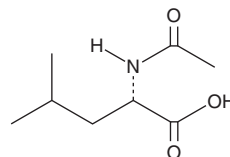
PRODUCT INFORMATION



N-acetyl-L-Leucine

Item No. 42889

CAS Registry No.: 1188-21-2
Synonyms: Levacetylleucine, NALL, NSC 206316
MF: $C_8H_{15}NO_3$
FW: 173.2
Purity: $\geq 98\%$
Supplied as: A solid
Storage: $-20^{\circ}C$
Stability: ≥ 4 years



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

Laboratory Procedures

N-acetyl-L-Leucine is supplied as a solid. A stock solution may be made by dissolving the N-acetyl-L-leucine in the solvent of choice, which should be purged with an inert gas. N-acetyl-L-Leucine is soluble in organic solvents such as ethanol and DMSO. N-acetyl-L-Leucine is sparingly soluble (1-10 mg/ml) in ethanol and soluble (≥ 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 N-acetyl-L-leucine can be prepared by directly dissolving the solid in aqueous buffers. N-acetyl-L-Leucine 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

N-acetyl-L-Leucine is an acetylated derivative of the essential amino acid L-leucine (Item No. 34342).¹ It decreases lesion size and improves sensorimotor deficits in the beam walk test in a mouse model of controlled cortical impact-induced traumatic brain injury (TBI) when administered at a dose of 100 mg/kg per day. N-acetyl-L-Leucine (100 mg/kg per day) increases the latency to fall from the rotarod, increases substantia nigra levels of tyrosine hydroxylase, and decreases serum levels of IL-6 in a mouse model of MPTP-induced Parkinson's disease.² Formulations containing N-acetyl-L-leucine have been used in the treatment of Niemann-Pick disease type C.

References

1. Hegdekar, N., Lipinski, M.M., and Sarkar, C. N-Acetyl-L-leucine improves functional recovery and attenuates cortical cell death and neuroinflammation after traumatic brain injury in mice. *Sci. Rep.* **11**(1), 9249 (2021).
2. Xu, Z., Lian, C., Pan, L., et al. N-acetyl-L-leucine protects MPTP-treated Parkinson's disease mouse models by suppressing Desulfovibrio via the gut-brain axis. *Brain Res. Bull.* **202**, 110729 (2023).

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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