

PRODUCT INFORMATION



N-Oleoyl Glutamine

Item No. 28922

CAS Registry No.: 247150-73-8

Formal Name: N²-[(9Z)-1-oxo-9-octadecen-1-yl]-

L-glutamine

Synonym: N-Oleoyl Gln

MF: C₂₃H₄₂N₂O₄

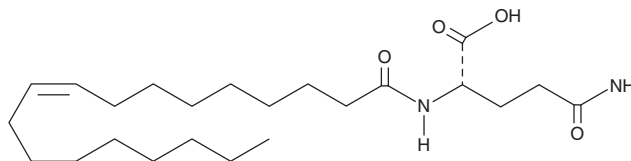
FW: 410.6

Purity: ≥95%

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

N-Oleoyl glutamine is supplied as a crystalline solid. A stock solution may be made by dissolving the N-Oleoyl glutamine in the solvent of choice, which should be purged with an inert gas. N-Oleoyl glutamine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of N-oleoyl glutamine in ethanol is approximately 1 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Description

N-Oleoyl glutamine is an endogenous N-acyl amine.^{1,2} It is both formed and degraded by peptidase M20 domain-containing 1 (PM20D1), a factor secreted by thermogenic adipose cells. N-Oleoyl glutamine (50 μM) induces mitochondrial uncoupling to increase respiration in C2C12 cells by 64%.³ It inhibits capsaicin-induced calcium flux in HEK293A cells co-transfected with transient receptor potential vanilloid 1 (TRPV1) and red fluorescent protein (RFP).² N-Oleoyl glutamine (100 mg/kg) reduces the number of acetic acid-induced abdominal constrictions, as well as formalin-induced paw licking in mice.

References

1. Long, J.Z., Svensson, K.J., Bateman, L.A., *et al.* The secreted enzyme PM20D1 regulates lipidated amino acid uncouplers of mitochondria. *Cell* **166**(2), 1-12 (2016).
2. Long, J.Z., Roche, A.M., Berdan, C.A., *et al.* Ablation of PM20D1 reveals N-acyl amino acid control of metabolism and nociception. *Proc. Natl. Acad. Sci. U.S.A.* **115**(29), E6937-E6945 (2018).
3. Lin, H., Long, J.Z., Roche, A.M., *et al.* Discovery of hydrolysis-resistant isoindoline N-acyl amino acid analogues that stimulate mitochondrial respiration. *J. Med. Chem.* **61**(7), 3224-3230 (2018)

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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