

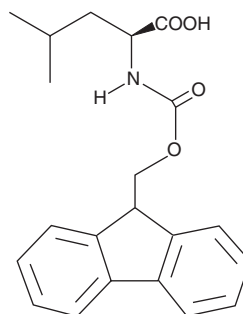
Product Information



FMOC-L-Leucine

Item No. 10004888

CAS Registry No.: 35661-60-0
Formal Name: N-[(9H-fluoren-9-ylmethoxy) carbonyl]-L-leucine
Synonyms: FMOC-Leu, NPC 15199, NSC 334290
MF: C₂₁H₂₃NO₄
FW: 353.4
Purity: ≥98%
Stability: ≥2 years at Room Temperature
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that FMOC-L-leucine be stored as supplied at room temperature. It should be stable for at least two years.

FMOC-L-leucine is supplied as a crystalline solid. A stock solution may be made by dissolving the FMOC-L-leucine in the solvent of choice. FMOC-L-leucine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of FMOC-L-leucine in these solvents is approximately 30 mg/ml.

FMOC-L-leucine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, FMOC-L-leucine should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. FMOC-L-leucine has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Peroxisome proliferator-activated receptor γ (PPAR γ) isoforms heterodimerize with retinoic X receptors to modulate gene expression related to adipocyte differentiation, fatty acid uptake and storage, and glucose metabolism.¹ Natural agonists of PPAR γ include fatty acids (e.g., linoleic acid and 15-deoxy- $\Delta^{12,14}$ -prostaglandin J₂), while thiazolidinediones (e.g., rosiglitazone and pioglitazone) are potent synthetic agonists.^{2,3} FMOC-L-leucine is a partial agonist of PPAR γ .^{2,4} It activates PPAR γ with a lower potency ($K_i = 15 \mu\text{M}$ versus $0.035 \mu\text{M}$) but a similar maximal efficacy compared to rosiglitazone.⁴ FMOC-L-leucine improves insulin resistance in normal, diet-induced glucose-intolerant and in diabetic *db/db* mice, yet has reduced adipogenic activity.⁴ As a result, it is classified as a selective PPAR γ modulator (SPPARM), capable of producing insulin-sensitizing effects while minimizing side effects associated with full agonists.²

References

1. Heikkinen, S., Auwerx, J., and Argmann, C.A. PPAR γ in human and mouse physiology. *Biochim. Biophys. Acta* **1771**(8), 999-1013 (2007).
2. Villacorta, L., Schopfer, F.J., Zhang, J., *et al.* PPAR γ and its ligands: Therapeutic implications in cardiovascular disease. *Clin. Sci.* **116**, 205-218 (2009).
3. Zieleniak, A., Wójcik, M., and Wozniak, L.A. Structure and physiological functions of the human peroxisome proliferator-activated receptor γ . *Arch. Immunol. Ther. Exp.* **56**, 331-345 (2008).
4. Rocchi, S., Picard, F., Vamecq, J., *et al.* A unique PPAR γ ligand with potent insulin-sensitizing yet weak adipogenic activity. *Mol. Cell* **8**, 737-747 (2001).

Related Products

15-deoxy- $\Delta^{12,14}$ -Prostaglandin J₂ - Item No. 18570 • MCC-555 - Item No. 70735 • GW 9662 - Item No. 70785 • PPAR γ -PAK - Item No. 71000 • Ciglitazone - Item No. 71730 • Rosiglitazone - Item No. 71740 • Troglitazone - Item No. 71750 • Linoleic Acid - Item No. 90150 • Linoleic Acid (peroxide free) - Item No. 90150.1 • Linoleic Acid-d₄ - Item No. 390150 • Linoleic Acid Quant-PAK - Item No. 10006834 • Linoleic Acid ethyl ester - Item No. 10008198 • Linoleic Acid-biotin - Item No. 10010623

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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