

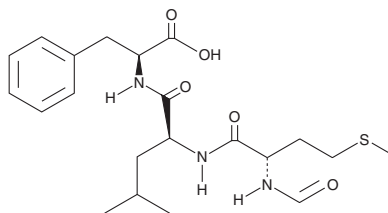
PRODUCT INFORMATION



N-Formyl-Met-Leu-Phe

Item No. 21495

CAS Registry No.: 59880-97-6
Formal Name: N-formyl-L-methionyl-L-leucyl-L-phenylalanine
Synonyms: Chemotactic Peptide, fMLF, fMLP, NSC 350593
MF: C₂₁H₃₁N₃O₅S
FW: 437.6
Purity: ≥98%
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-Formyl-Met-Leu-Phe is supplied as a crystalline solid. A stock solution may be made by dissolving the N-Formyl-Met-Leu-Phe in the solvent of choice, which should be purged with an inert gas. N-Formyl-Met-Leu-Phe is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of N-Formyl-Met-Leu-Phe in these solvents is approximately 0.5, 30, and 25 mg/ml, respectively.

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-Formyl-Met-Leu-Phe can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of N-Formyl-Met-Leu-Phe in PBS (pH 7.2) is approximately 0.1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

N-Formyl-Met-Leu-Phe (fMLF) is a synthetic peptide that acts as an agonist at formyl peptide receptors (FPRs; $K_i = 0.8$ pM), which are mainly localized on polymorphonuclear and mononuclear phagocytes.¹ Activation of FPRs by fMLF leads to cellular activation, which is characterized by cellular polarization, chemotaxis, and release of proteolytic enzymes.² fMLF induces contractions in isolated guinea pig jejunum ($EC_{50} = 11$ nM), proximal colon ($EC_{50} = 3.5$ nM), and distal colon ($EC_{50} = 2.2$ nM).³ *In vitro*, fMLF induces neurotransmitter release from enteric motor neurons.

References

1. Panaro, M.A., Acquafreddo, A., Sisto, M., *et al.* Biological role of the N-formyl peptide receptors. *Immunopharmacol. Immunotoxicol.* **28(1)**, 103-127 (2006).
2. Wang, W., Li, T., Wang, X., *et al.* FAM19A4 is a novel cytokine ligand of formyl peptide receptor 1 (FPR1) and is able to promote the migration and phagocytosis of macrophages. *Cell. Mol. Immunol.* **12(5)**, 615-624 (2015).
3. Colucci, M., Mastroiata, M., Maione, F., *et al.* Guinea pig ileum motility stimulation elicited by N-formyl-Met-Leu-Phe (fMLF) involves neurotransmitters and prostanoids. *Peptides* **32(2)**, 266-271 (2011).

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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