

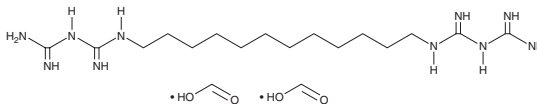
PRODUCT INFORMATION



LCC-12 (formate)

Item No. 38929

CAS Registry No.: 3029253-76-4
Formal Name: 3,18-diimino-2,4,17,19-tetraazaeicosanediiimide, diformic acid
Synonym: LCC-12 FA
MF: $C_{16}H_{36}N_{10} \cdot 2CH_2O_2$
FW: 460.6
Purity: $\geq 98\%$
UV/Vis.: λ_{max} : 237 nm
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

LCC-12 (formate) is supplied as a solid. A stock solution may be made by dissolving the LCC-12 (formate) in the solvent of choice, which should be purged with an inert gas. LCC-12 (formate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of LCC-12 (formate) in these solvents is approximately 30 mg/ml.

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 LCC-12 (formate) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of LCC-12 (formate) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

LCC-12 is a copper (II) chelator and derivative of the biguanide metformin (Item No. 13118).¹ It binds copper (II) as a monomer and reduces its hydrogen peroxide-dependent oxidation of NADH to NAD^+ when used at a concentration of 20 μM . LCC-12 (10 μM) decreases the levels of the cytokines IL-1 β , IL-2, IL-6, IL-8, and TNF- α , as well as levels of JAK2, STAT2, and IL-1 receptor-associated kinase 4 (IRAK4), in primary human cytokine-activated monocyte-derived macrophages (MDMs). It reduces the numbers of CD80⁺ and CD86⁺ cytokine-activated MDMs when used at a concentration of 10 μM . LCC-12 (0.3 mg/kg per day) increases survival in mouse models of sepsis induced by LPS or cecal ligation and puncture.

Reference

1. Solier, S., Müller, S., Cañeque, T., et al. A druggable copper-signalling pathway that drives inflammation. *Nature* **617(7960)**, 386-394 (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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