

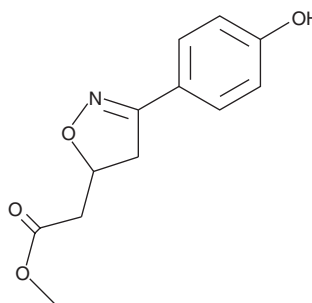
# PRODUCT INFORMATION



## MIF Antagonist

Item No. 14929

**CAS Registry No.:** 478336-92-4  
**Formal Name:** 4,5-dihydro-3-(4-hydroxyphenyl)-5-isoxazoleacetic acid, methyl ester  
**Synonyms:** ISO-1,  
Macrophage Migration Inhibitory Factor  
**MF:** C<sub>12</sub>H<sub>13</sub>NO<sub>4</sub>  
**FW:** 235.2  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 215, 273 nm  
**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

MIF antagonist is supplied as a crystalline solid. A stock solution may be made by dissolving the MIF antagonist in the solvent of choice, which should be purged with an inert gas. MIF antagonist is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of MIF antagonist in these solvents is approximately 5, 14, and 20 mg/ml, respectively.

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

### Description

MIF is a regulator of inflammation that also has roles in cancer and autoimmune diseases.<sup>1</sup> MIF exhibits both tautomerase and oxidoreductase activities, although how these are linked to MIF's physiological and pathophysiological actions is unclear.<sup>1</sup> MIF antagonist, also known as ISO-1, is an inhibitor of the dopachrome tautomerase activity of MIF *in vitro* (IC<sub>50</sub> = 7 μM) and in cells (IC<sub>50</sub> = 25 μM).<sup>2-3</sup> It blocks the activation of NF-κB and TNF-α secretion from LPS-treated macrophages and improves the survival of mice following sepsis.<sup>3</sup> MIF antagonist also demonstrates protective effects in airway and gastrointestinal inflammation in mice.<sup>4-5</sup>

### References

1. Xu, L., Li, Y., Sun, H., *et al.* *Drug Discov. Today* **18**(11-12), 592-600 (2013).
2. Lubetsky, J.B., Dios, A., Han, J., *et al.* *J. Biol. Chem.* **277**(28), 24976-24982 (2002).
3. Al-Abed, Y., Dabideen, D., Aljabari, B., *et al.* *J. Biol. Chem.* **280**(44), 36541-36544 (2005).
4. Dagia, N.M., Kamath, D.V., Bhatt, P., *et al.* *Eur. J. Pharmacol.* **607**(1-3), 201-212 (2009).
5. Chen, P.-F., Luo, Y., Wang, W., *et al.* *Mol. Med.* **16**(9-10), 400-408 (2010).

#### 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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