# CORM-401

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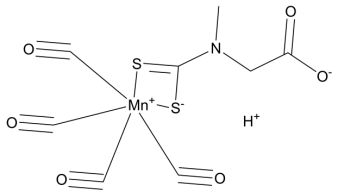
|---|---|
| **Cat. No.:** | HY-109804 |
| **CAS No.:** | 1001015-18-4 |
| **Molecular Formula:** | $C_8H_6MnNO_6S_2$ |
| **Molecular Weight:** | 331.2 |
| **Target:** | Reactive Oxygen Species |
| **Pathway:** | Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB |
| **Storage:** | Powder -20°C 3 years<br>In solvent -80°C 6 months<br>-20°C 1 month |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 25 mg/mL (75.48 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 3.0193 mL | 15.0966 mL | 30.1932 mL |
| | 5 mM | 0.6039 mL | 3.0193 mL | 6.0386 mL |
| | 10 mM | 0.3019 mL | 1.5097 mL | 3.0193 mL |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 2.5 mg/mL (7.55 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (7.55 mM); Suspended solution; Need ultrasonic

## BIOLOGICAL ACTIVITY

**Description**

CORM-401 is an oxidant-sensitive CO-releasing molecule. CORM-401 induces NO increase in the regulation of endothelial calcium signalling. CORM-401 reduces TNF-α/CHX and H2O2-induced ROS production. CORM-401 uncouples mitochondrial respiration and inhibits glycolysis[1][2][3].

**In Vitro**

CORM-401 (100 μM; 1h) induces the NO production in endothelial EA.hy926 cells[1].
?CORM-401 (30 μM) induces peak-like calcium signal and augmentes coupling of endoplasmic reticulum and plasmalemmal store-operated calcium channels[1].
?CORM-401 (50 μM; 1h) significantly reduces TNF-α/CHX and H2O2-induced ROS production and cell death[2].
?CORM-401 (0.5, 1 mM) induces a persistent increase in the oxygen consumption rate in endothelial EA.hy926 cells[3].
?CORM-401 (10, 30, 100 μM) induces a concentration-dependent increase in OCR and a simultaneous decrease in ECAR[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Biomater Adv. 2023 Mar 20;149:213393.

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## REFERENCES

[1]. Kaczara P, et al. CORM-401 induces calcium signalling, NO increase and activation of pentose phosphate pathway in endothelial cells. FEBS J. 2018 Apr;285(7):1346-1358.

[2]. Babu D, et al. Differential Effects of CORM-2 and CORM-401 in Murine Intestinal Epithelial MODE-K Cells under Oxidative Stress. Front Pharmacol. 2017 Feb 8;8:31.

[3]. Kaczara P, et al. Carbon monoxide released by CORM-401 uncouples mitochondrial respiration and inhibits glycolysis in endothelial cells: A role for mitoBKCa channels. Biochim Biophys Acta. 2015 Oct;1847(10):1297-309.



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