# Demethyleneberberine

**Cat. No.:** HY-N0592

**CAS No.:** 25459-91-0

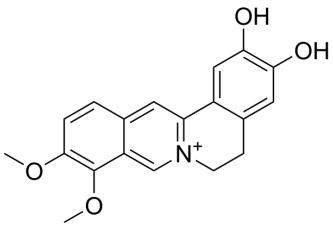
**Molecular Formula:** $C_{19}H_{18}NO_4^+$

**Molecular Weight:** 324.35

**Target:** NF-κB; AMPK

**Pathway:** NF-κB; Epigenetics; PI3K/Akt/mTOR

**Storage:** 4°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)




## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 10 mg/mL (30.83 mM; ultrasonic and adjust pH to 8 with HCl)

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 3.0831 mL | 15.4154 mL | 30.8309 mL |
| 5 mM | 0.6166 mL | 3.0831 mL | 6.1662 mL |
| 10 mM | 0.3083 mL | 1.5415 mL | 3.0831 mL |

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

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (7.71 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

Demethyleneberberine is a natural mitochondria-targeted antioxidant. Demethyleneberberine alleviates mice colitis and inhibits the inflammatory responses by inhibiting NF-κB pathway and regulating the balance of Th cells. Demethyleneberberine could serve as a AMPK activator for treating non-alcoholic fatty liver disease (NAFLD)[1][2][3].

## REFERENCES

[1]. Zhang P, et al. Demethyleneberberine, a natural mitochondria-targeted antioxidant, inhibits mitochondrial dysfunction, oxidative stress, and steatosis in alcoholic liver disease mouse model. J Pharmacol Exp Ther. 2015 Jan;352(1):139-47.

[2]. Chen YY, et al. Demethyleneberberine alleviates inflammatory bowel disease in mice through regulating NF-κB signaling and T-helper cell homeostasis. Inflamm Res. 2017 Feb;66(2):187-196.

[3]. Qiang X, et al. Demethyleneberberine attenuates non-alcoholic fatty liver disease with activation of AMPK and inhibition of oxidative stress. Biochem Biophys Res

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