# Folinic acid calcium salt pentahydrate

**Cat. No.:** HY-B0080

**CAS No.:** 6035-45-6

**Molecular Formula:** $C_{20}H_{31}CaN_7O_{12}$

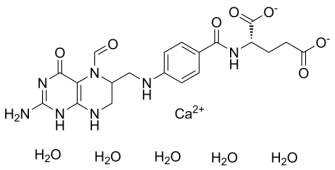
**Molecular Weight:** 601.58

**Target:** Antifolate; Endogenous Metabolite

**Pathway:** Cell Cycle/DNA Damage; Metabolic Enzyme/Protease

**Storage:** 4°C, sealed storage, away from moisture and light

* The compound is unstable in solutions, freshly prepared is recommended.



## SOLVENT & SOLUBILITY

**In Vitro**

$H_2O$ : 10 mg/mL (16.62 mM; Need ultrasonic)

DMSO : < 1 mg/mL (insoluble or slightly soluble)

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 1.6623 mL | 8.3114 mL | 16.6229 mL |
| 5 mM | 0.3325 mL | 1.6623 mL | 3.3246 mL |
| 10 mM | 0.1662 mL | 0.8311 mL | 1.6623 mL |

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

## BIOLOGICAL ACTIVITY

**Description**

Folinic acid calcium salt pentahydrate (Leucovorin calcium salt pentahydrate) is a biological folic acid and is generally administered along with methotrexate (MTX) as a rescue agent to decrease MTX-induced toxicity[1].

**$IC_{50}$ & Target**

Human Endogenous Metabolite

**In Vitro**

MTX alone induces a concentration-related increase in % micronucleated binucleated cells (MNBN) and % aberrant cells (Abs). There is a decrease in nuclear division index (NDI) with increase in MTX concentration. Similarly, the mitotic index (MI) also decreases in all concentrations of MTX tested. The addition of Folinic acid at 50 µg/ mL significantly reduces % MNBN (40-68%) and % Abs (36-77%). Inhibition is also seen at 5 µg/ mL Folinic acid (12 to 54% for MNBN and 20 to 61% for Abs) [1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**In Vivo**

Folinic acid (7.0 mg/kg; intraperitoneal injection; every second day; for 3 weeks; Balb/c young growing male mice) treatment following methotrexate (MTX) administration appears to reverse this growth inhibition (Chronic administration of MTX induces suppression of skeletal growth in mice)[2].

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| | |
|---|---|
| Animal Model: | 24 Balb/c young growing male mice aged 3 weeks (11.88 ± 0.25 g)[2] |
| Dosage: | 7.0 mg/kg |
| Administration: | Intraperitoneal injection; every second day; for 3 weeks |
| Result: | Following methotrexate (MTX) administration appears to reverse this growth inhibition. |

## CUSTOMER VALIDATION

- JAMA Oncol. 2022 Jan 1;8(1):e215445.
- Nat Commun. 2020 Apr 14;11(1):1792.
- EBioMedicine. 2024 Mar 13:102:105041.
- NPJ Precis Oncol. 2023 Dec 8;7(1):128.
- Mol Oncol. 2020 Nov;14(11):2894-2919.

See more customer validations on www.MedChemExpress.com

## REFERENCES

[1]. Keshava C, et al. Inhibition of methotrexate-induced chromosomal damage by folinic acid in V79 cells. Mutat Res. 1998 Feb 2;397(2):221-8.

[2]. Iqbal MP, et al. Effect of methotrexate and folinic acid on skeletal growth in mice. Acta Paediatr. 2003 Dec;92(12):1438-44.



Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA