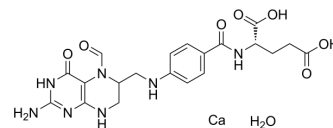


## Folinic acid calcium hydrate

Cat. No.:	HY-17556B
CAS No.:	1097832-14-8
Molecular Formula:	C <sub>20</sub> H <sub>25</sub> CaN <sub>7</sub> O <sub>8</sub>
Molecular Weight:	531.53
Target:	Endogenous Metabolite; Antifolate
Pathway:	Metabolic Enzyme/Protease; Cell Cycle/DNA Damage
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Folinic acid (Leucovorin) calcium hydrate is a biological folic acid and is generally administered along with <a href="#">Methotrexate (MTX)</a> (HY-14519) as a rescue agent to decrease MTX-induced toxicity <sup>[1]</sup> .								
<b>IC<sub>50</sub> &amp; Target</b>	Human Endogenous Metabolite								
<b>In Vitro</b>	<p>Methotrexate (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 calcium hydrate at 50 µg/mL significantly reduces % MNBN (40-68%) and % Abs (36-77%). Inhibition is also seen at 5 µg/mL Folinic acid calcium hydrate (12 to 54% for MNBN and 20 to 61% for Abs)<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>								
<b>In Vivo</b>	<p>Folinic acid (7.0 mg/kg; intraperitoneal injection; every second day; for 3 weeks; Balb/c young growing male mice) calcium hydrate treatment following Methotrexate (MTX) administration appears to reverse this growth inhibition (Chronic administration of MTX induces suppression of skeletal growth in mice)<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Animal Model:</td> <td>24 Balb/c young growing male mice aged 3 weeks (11.88 ± 0.25 g)<sup>[2]</sup></td> </tr> <tr> <td>Dosage:</td> <td>7.0 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>Intraperitoneal injection; every second day; for 3 weeks</td> </tr> <tr> <td>Result:</td> <td>Following Mthotrexate (MTX) administration appears to reverse this growth inhibition.</td> </tr> </table>	Animal Model:	24 Balb/c young growing male mice aged 3 weeks (11.88 ± 0.25 g) <sup>[2]</sup>	Dosage:	7.0 mg/kg	Administration:	Intraperitoneal injection; every second day; for 3 weeks	Result:	Following Mthotrexate (MTX) administration appears to reverse this growth inhibition.
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### CUSTOMER VALIDATION

- JAMA Oncol. 2022 Jan 1;8(1):e215445.
- NPJ Precis Oncol. 2023 Dec 8;7(1):128.
- Mol Oncol. 2020 Nov;14(11):2894-2919.

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- Appl Microbiol Biotechnol. 2024 Dec;108(1):1-15.
  - J Mol Med (Berl). 2019 Aug;97(8):1183-1193.

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## REFERENCES

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- [1]. Keshava, C., et al., Inhibition of methotrexate-induced chromosomal damage by folic acid in V79 cells. Mutat Res, 1998. 397(2): p. 221-8.
- [2]. Iqbal MP, et al. Effect of methotrexate and folic acid on skeletal growth in mice. Acta Paediatr. 2003 Dec;92(12):1438-44.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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