SZABO SCANDIC

Part of Europa Biosite

# Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand


**SZABO-SCANDIC HandelsgmbH**

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

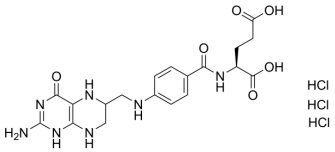
mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

# Tetrahydrofolic acid trihydrochloride

| | |
|---|---|
| **Cat. No.:** | HY-14520B |
| **CAS No.:** | 150731-85-4 |
| **Molecular Formula:** | $C_{19}H_{26}Cl_3N_7O_6$ |
| **Molecular Weight:** | 554.81 |
| **Target:** | Endogenous Metabolite |
| **Pathway:** | Metabolic Enzyme/Protease |
| **Storage:** | Please store the product under the recommended conditions in the Certificate of Analysis. |




## BIOLOGICAL ACTIVITY

| | |
|---|---|
| **Description** | Tetrahydrofolic acid (L-5,6,7,8-Tetrahydrofolic acid) trihydrochloride is the biologically active vitamin B9 folate derivative. Tetrahydrofolic acid trihydrochloride is a donor of one-carbon groups for amino acids, nucleic acids, and lipids. Tetrahydrofolic acid trihydrochloride serves as an acceptor of free formaldehyde, producing 5,10-methylenetetrahydrofolate-Tetrahydrofolic acid[1]. |
| **$IC_{50}$ & Target** | Human Endogenous Metabolite |
| **In Vitro** | Tetrahydrofolic acid (0-200 μM; 3 days; Adh5$^{-/-}$ DT40 cells) trihydrochloride exposure is cytotoxic to Adh5- and Fanconi anemia (FA)-deficient cells due to the accumulation of extensive DNA damage and chromosome breaks[1].<br>Tetrahydrofolic acid (0-100 μM; 16 hours; Adh5$^{-/-}$ DT40 cells) trihydrochloride strongly promots FANCD2 and ser139-H2AX focus formation in Adh5$^{-/-}$ cells in a dose-dependent manner[1].<br>Tetrahydrofolic acid trihydrochloride exposure activates the DNA damage response (DDR) due to uncontrolled activity of the thymidylate synthase enzyme, which causes a depletion of essential nucleotides, and promotes repair by a homologous recombination mechanism[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

Cell Viability Assay[1]

| | |
|---|---|
| Cell Line: | Adh5$^{-/-}$ DT40 cells |
| Concentration: | 0-200 μM |
| Incubation Time: | 3 days |
| Result: | Viability of Adh5$^{-/-}$DT40 cells rapidly dropped. |

Western Blot Analysis[1]

| | |
|---|---|
| Cell Line: | Adh5$^{-/-}$ DT40 cells |
| Concentration: | 0-200 μM |
| Incubation Time: | 16 hours |
| Result: | Strongly promoted FANCD2 and ser139-H2AX focus formation in Adh5$^{-/-}$ cells in a dose-dependent manner. |

**In Vivo**

Tetrahydrofolic acid (62.5 mg/kg; intraperitoneal injection; daily; $Adh5^{-/-}$ mice) trihydrochloride perturbs the hematopoiesis of hematopoietic cells, increases ser139-H2AX phosphorylation, and decreases the survival of progenitor cells (HSPCs) suggesting that excess Tetrahydrofolic acid trihydrochloride could be mutagenic and genotoxic to bone marrow cells[1].

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

| | |
|---|---|
| Animal Model: | $Adh5^{-/-}$ mice[1] |
| Dosage: | 62.5 mg/kg |
| Administration: | Intraperitoneal injection; daily |
| Result: | Perturbed hematopoiesis, increased ser139-H2AX phosphorylation, and decreased the survival of progenitor cells (HSPCs). |

## CUSTOMER VALIDATION

- J Biol Chem. 2022 Sep 28;102548.

See more customer validations on www.MedChemExpress.com

## REFERENCES

[1]. Steven W. Bailey, et al. Synthesis of Tetrahydropteridine C6-Stereoisomers, Including N6-Formyl-(68)-tetrahydrofolic Acid. The Journal of Organic Chemistry, 57(16), 4470-4477.



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