

# PRODUCT INFORMATION



## (6R,S)-5,6,7,8-Tetrahydrofolic Acid (hydrochloride)

Item No. 20526

**CAS Registry No.:** 150731-85-4  
**Formal Name:** N-[4-[[[(2-amino-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridinyl)methyl]amino]benzoyl]-L-glutamic acid, trihydrochloride

**Synonyms:** Tetrahydrofolate, THFA

**MF:** C<sub>19</sub>H<sub>23</sub>N<sub>7</sub>O<sub>6</sub> • 3HCl

**FW:** 554.8

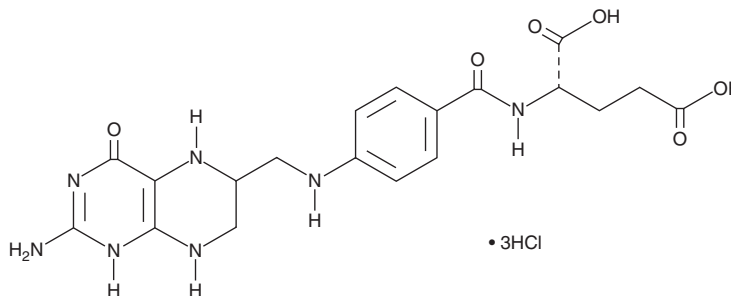
**Purity:** ≥95%

**UV/Vis.:** λ<sub>max</sub>: 276 nm

**Supplied as:** A crystalline solid

**Storage:** -20°C

**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

(6R,S)-5,6,7,8-Tetrahydrofolic acid (THFA) (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the THFA (hydrochloride) in the solvent of choice, which should be purged with an inert gas. THFA (hydrochloride) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of THFA (hydrochloride) in these solvents is approximately 20 and 10 mg/ml, respectively.

THFA (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, THFA (hydrochloride) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. THFA (hydrochloride) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

THFA, the reduced form of folic acid (Item No. 20515), serves as a cofactor in methyltransferase reactions and is the major one-carbon carrier in one carbon metabolism.<sup>1</sup> Its metabolites participate in the synthesis of thymidine for incorporation into DNA or the synthesis of purines, as well as in the formation of methionine, which can be converted to the ubiquitous methyl donor, S-adenosylmethionine (Item No. 13956).<sup>1</sup> THFA has also been used to study the activation of metabolite-binding riboswitches.<sup>2</sup>

### References

1. Ragsdale, S.W. Catalysis of methyl group transfers involving tetrahydrofolate and B12. *Vitam. Horm.* **79**, 293-324 (2008).
2. Breaker, R.R. Prospects for riboswitch discovery and analysis. *Mol. Cell* **43(6)**, 867-879 (2011).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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