
Product Data Sheet

Product Name: DHFR Human
 Cat. No.: GP21555
 Batch No.: 1

Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Dihydrofolate reductase; DHFR; DHFRP1.		
Amino Acid Sequence	MGSSHHHHHH SGLVPRGSH MVGSLNCIVA VSQNMGIGKN GDLWPPLRN EFRYFQRM TT TSSVEGKQNL VIMGKKTWFS IPEKNRPLKG RINLVLSREL KEPPQGAHFL SRSLDDALKL TEQPELANKV DMVWIVGGSS VYKEAMNHPG HLKLFVTRIM QDFESDTFFP EIDLEKYKLL PEYPGVLSDV QEEKGIKYKF EVYEKND.		
Formulation	The DHFR solution (1mg/ml) contains 20mM Tris-HCl buffer (pH8.0), 0.1M NaCl, 2mM DTT and 30% glycerol.		

Introduction

Dihydrofolate reductase (DHFR) is an enzyme that reduces dihydrofolic acid to tetrahydrofolic acid, with NADPH as electron donor that can be converted to the kinds of tetrahydrofolate cofactors applied in 1-carbon transfer chemistry. DHFR converts dihydrofolate into tetrahydrofolate, which is a methyl group shuttle required for the de novo synthesis of purines, thymidylic acid, and specific amino acids. Even though the functional DHFR gene is mapped to chromosome 5, numerous intronless processed pseudogenes or dihydrofolate reductase-like genes are identified on separate chromosomes. DHFR deficiency is associated with megaloblastic anemia. DHFR knockdown plays a role in the anticancer activity of 2-hydroxyoleic acid. DHFR gene insertion/deletion polymorphism is linked to variation in serum and red blood cell folate concentrations in women.

Biological Activity

Specific activity is >3500 pmol/min/ug is defined as the amount of enzyme that converts 1.0 pmole of dihydrofolic acid to tetrahydrofolic acid per minute at pH 6.5 at 25C.

Caution: Product has not been fully validated for medical applications. For research use only.

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Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

Background

DHFR Human Recombinant fused with a 20 amino acids His tag at N-terminus produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 207 amino acids (1-187 a.a.) and having a molecular mass of 23.6kDa. The DHFR is purified by proprietary chromatographic techniques.

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