

Recombinant Human Dihydrofolate Reductase, His-tagged

Cat. No. DHFR-375H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Dihydrofolate reductase protein, fused to His-tag at N-terminus, was expressed in <i>E.coli</i> and purified by using conventional chromatography techniques. MW = 23.6 kDa (207aa).
Species	Human
Source	<i>E.coli</i>
Description	DHFR, also known as Dihydrofolate reductase, is an enzyme that reduces dihydrofolic acid to tetrahydrofolic acid, using NADPH as electron donor, which can be converted to the kinds of tetrahydrofolate cofactors used in 1-carbon transfer chemistry. Dihydrofolate reductase deficiency has been linked to megaloblastic anemia.
Amino Acid Sequence	MGSSHHHHHH SSGLVPRGSH MVGSLNCIVA VSQNMGIGKN GDLPWPPLRN EFRYFQRMTT TSSVEGKQNL VIMGKKTWFS IPEKNRPLKG RINLVLSREL KEPPQGAHFL SRSLDDALKL TEQPELANKV DMVWIVGGSS VYKEAMNHPG HLKLFVTRIM QDFESDTFFP EIDLEKYKLL PEYPGVLSDV QEEKGIKYKF EVYEKND
Form	Liquid. In 20 mM Tris-HCl buffer (pH8.0) containing 0.1M NaCl 2mM DTT, and 30% glycerol.
Purity	> 95% by SDS – PAGE.
Concentration	1 mg/ml (determined by Bradford assay).

Tel: 1-631-559-9269 1-516-512-3133

Email: info@creative-biomart.com Fax: 1-631-938-8127

45-1 Ramsey Road, Shirley, NY 11967, USA



Biological activity	Specific activity is 1.5 - 2.5 units/ml and was obtained by measuring the oxidation of NADPH in absorbance at 340 nm during reaction. One unit will convert 1.0 umole of 7,8 dihydrofolate and beta-NADPH to 5,6,7,8-tetrahydrofolate and beta-NADP per minute at pH 6.5 at 25°C.
Activity Assay	1.Prepare a 3.2 ml reaction mixture into a suitable container: The final concentrations are 50 mM potassium phosphate, 0.72 mM DHFA, 0.1mM beta-NADPH, 0.003% (w/v) BSA.2.Equilibrate to 25°C and monitor the A340nm until the value is constant using a spectrophotometer.3.Add 2.5ug of recombinant DHFR into reaction mixture and mix immediately. 4.Record the increase in A340nm for 2 minutes
Storage	Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.

GENE INFORMATION

Gene Name	DHFR dihydrofolate reductase [Homo sapiens]
Synonyms	DHFR; dihydrofolate reductase; EC 1.5.1.3
Gene ID	1719
mRNA Refseq	NM_000791
Protein Refseq	NP_000782
MIM	126060
UniProt ID	P00374

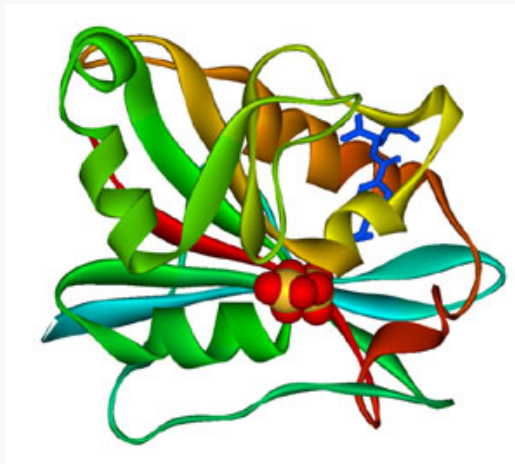
Tel: 1-631-559-9269 1-516-512-3133

Email: info@creative-biomart.com Fax: 1-631-938-8127

45-1 Ramsey Road, Shirley, NY 11967, USA

Chromosome Location	5q11.2-q13.2
Pathway	Folate biosynthesis; Metabolic pathways; One carbon pool by folate
Function	NADP or NADPH binding; dihydrofolate reductase activity; oxidoreductase activity

Ribbon diagram of human dihydrofolate reductase in complex with folate (blue). From PDB 1DRF.



 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA