

## DHFR Human

**Description:** DHFR Human Recombinant fused with 20 amino acid 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.

Catalog #: ENPS-450

For research use only.

**Synonyms:** Dihydrofolate reductase, DHFR, DHFRP1.

**Source:** Escherichia Coli.

**Physical Appearance:** Sterile Filtered colorless solution.

**Amino Acid Sequence:** MGSSHHHHHH SSGLVPRGSH MVGSLNCIVA VSQNMGIGKN  
GDLWPPLRN EFRYFQRMTT TSSVEGKQNL VIMGKKTWFS IPEKNRPLKG RINLVLSREL  
KEPPQGAHFL SRSLDDALKL TEQPELANKV DMVWIVGGSS VYKEAMNHPG HLKLFVTRIM  
QDFESDTFFP EIDLEKYKLL PEYPGVLSDV QEEKGIKYKF EYVEKND.

**Purity:** Greater than 95.0% as determined by SDS-PAGE.

### Formulation:

The DHFR solution contains 20mM Tris-HCl buffer (pH8.0), 0.1M NaCl 2mM DTT, and 30% glycerol.

### 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.

### Usage:

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

### 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 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 25C.

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