

## Fumarase Human

**Description:** Fumarase Human Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 467 amino acids (44-510) and having a molecular mass of 50.2 kDa. Fumarate Hydratase is purified by proprietary chromatographic techniques.

**Catalog #:** ENPS-402

For research use only.

**Synonyms:** MCL, LRCC, HLRCC, MCUL1, FH, Fumarate hydratase, Fumarase.

**Source:** Escherichia Coli.

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

**Amino Acid Sequence:** MASQNSFRIE YDTFGELKVP NDKYYGAQTV RSTMNFKIGG  
VTERMPTPVI KAFGILKRAA AEVNQDYGLD PKIANAIMKA ADEVAEGKLN DHFPLVVWQT  
GSGTQTNMNV NEVISNRAIE MLGGELGSKI PVHPNDHVNK SQSSNDTFPT AMHIAAAIEV  
HEVLLPGLQK LHDALDAKSK EFAQIIKIGR THTQDAVPLT LGQEFSGYVQ QVKYAMTRIK  
AAMPRIYELA AG

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

**Formulation:**

The Fumarase protein solution (1mg/ml) contains 20mM Tris-HCl, pH-8.

**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:**

Fumarase is an enzymatic factor of Krebs cycle, which catalyzes the formation of L-malate from fumarate. Fumarase exists in both a cytosolic form and an N-terminal extended form, differing only in the translation start site used. The N-terminal extended form is aimed to the mitochondrion, where the removal of the extension results in the same form as in the cytoplasm. Fumarase is similar to a number of thermostable Class-2 fumarases and functions as a homotetramer.

Mutations in the Fumarase gene causes fumarase deficiency and leads to progressive encephalopathy, cerebral atrophy and developmental delay. Fumarase enzyme is also thought to act as a tumor suppressor. Leydig cell tumors are caused by Fumarase mutations and represents one of the first reports of germline mutations in any type of adult testicular tumor.

**Biological Activity:**

Specific activity is > 1.0 unit/mg, and is defined as the amount of enzyme that cleaves 1umole of L-Malate to Fumarate per minute at pH 7.5 at 25 C.

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