

**Goat Anti-Fumarase / FH Antibody**  
Peptide-affinity purified goat antibody  
Catalog # AF1449a

### Specification

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#### Goat Anti-Fumarase / FH Antibody - Product Information

Application	EIA, WB, IHC
Primary Accession	<a href="#">P07954</a>
Other Accession	<a href="#">NP_000134</a> , <a href="#">2271</a> , <a href="#">14194 (mouse)</a> , <a href="#">24368 (rat)</a>
Reactivity	Human
Predicted	Mouse, Rat, Dog
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	54637

#### Goat Anti-Fumarase / FH Antibody - Additional Information

Gene ID 2271

#### Other Names

Fumarate hydratase, mitochondrial, Fumarase, 4.2.1.2, FH

#### Format

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

#### Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

#### Precautions

Goat Anti-Fumarase / FH Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

#### Goat Anti-Fumarase / FH Antibody - Protein Information

**Name** FH {ECO:0000303|PubMed:27037871, ECO:0000312|HGNC:HGNC:3700}

#### Function

Catalyzes the reversible stereospecific interconversion of fumarate to L-malate (PubMed:<a href="http://www.uniprot.org/citations/30761759" target="\_blank">30761759</a>). Experiments in other species have demonstrated that specific isoforms of this protein act in defined pathways and favor one direction over the other (Probable).

#### Cellular Location

[Isoform Mitochondrial]: Mitochondrion

### Tissue Location

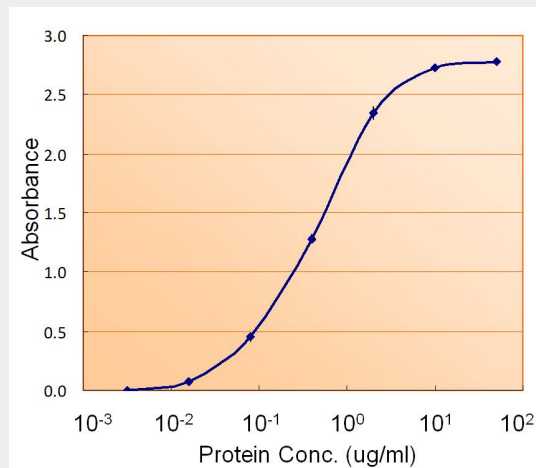
Expressed in red blood cells; underexpressed in red blood cells (cytoplasm) of patients with hereditary non-spherocytic hemolytic anemia of unknown etiology.

### Goat Anti-Fumarase / FH Antibody - Protocols

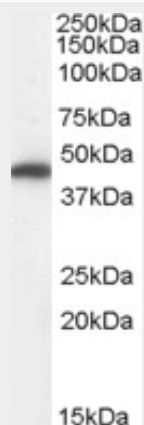
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

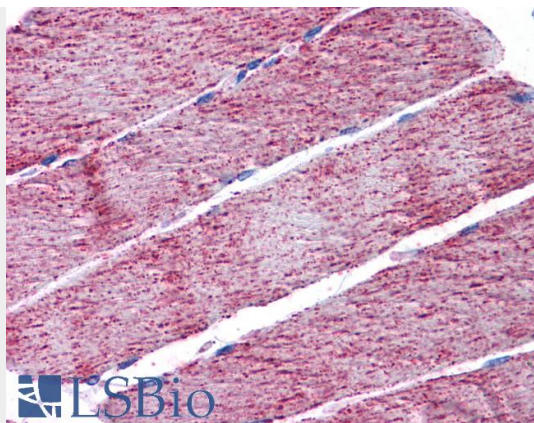
### Goat Anti-Fumarase / FH Antibody - Images



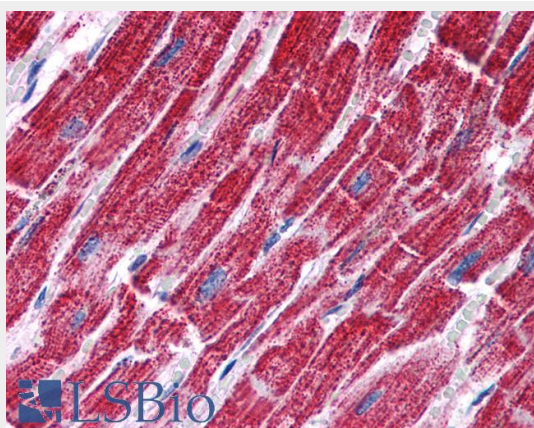
EB7874 (1.5 $\mu\text{g/ml}$ ) as the reporter with EB002023 as the capture rabbit antibody (2 $\mu\text{g/ml}$ ).



AF1449a (0.01 $\mu\text{g/ml}$ ) staining of Human Kidney lysate (35 $\mu\text{g}$  protein in RIPA buffer). Detected by chemiluminescence.



AF1449a (3.75µg/ml) staining of paraffin embedded Human Skeletal Muscle. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.



AF1449a (3.75µg/ml) staining of paraffin embedded Human Heart. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.

### **Goat Anti-Fumarase / FH Antibody - Background**

The protein encoded by this gene is an enzymatic component of the tricarboxylic acid (TCA) cycle, or Krebs cycle, and catalyzes the formation of L-malate from fumarate. It 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 targeted to the mitochondrion, where the removal of the extension generates the same form as in the cytoplasm. It is similar to some thermostable class II fumarases and functions as a homotetramer. Mutations in this gene can cause fumarase deficiency and lead to progressive encephalopathy.

### **Goat Anti-Fumarase / FH Antibody - References**

An approach based on a genome-wide association study reveals candidate loci for narcolepsy. Shimada M, et al. *Hum Genet*, 2010 Oct. PMID 20677014.  
Fumarase: a mitochondrial metabolic enzyme and a cytosolic/nuclear component of the DNA damage response. Yogev O, et al. *PLoS Biol*, 2010 Mar 9. PMID 20231875.  
UOK 262 cell line, fumarate hydratase deficient (FH-/FH-) hereditary leiomyomatosis renal cell carcinoma: in vitro and in vivo model of an aberrant energy metabolic pathway in human cancer. Yang Y, et al. *Cancer Genet Cytogenet*, 2010 Jan 1. PMID 19963135.  
Follow-up examination of linkage and association to chromosome 1q43 in multiple sclerosis. McCauley JL, et al. *Genes Immun*, 2009 Oct. PMID 19626040.  
Novel role of fumarate metabolism in dahl-salt sensitive hypertension. Tian Z, et al. *Hypertension*, 2009 Aug. PMID 19546378.