



# **SUMF1** Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP54839

## **Specification**

# **SUMF1 Polyclonal Antibody - Product Information**

Application Primary Accession

Reactivity
Host
Clonality
Calculated MW
Physical State
Immunogen

.....arrogeri

**Epitope Specificity** 

Isotype **Purity** 

affinity purified by Protein A

Buffer

SUBCELLULAR LOCATION

**SIMILARITY** 

**SUBUNIT** 

Post-translational modifications

**DISEASE** 

Important Note

WB, IHC-P, IHC-F, IF, ICC, E

Q8NBK3

Rat, Pig, Dog, Bovine

Rabbit Polyclonal 37 KDa Liquid

KLH conjugated synthetic peptide derived

from human SUMF1

301-374/374

laG

0.01M TBS (pH7.4) with 1% BSA, 0.02%

Proclin300 and 50% Glycerol. Endoplasmic reticulum lumen.

Belongs to the sulfatase-modifying factor

family.

Monomer, homodimer and heterodimer

with SUMF2.

N-glycosylated. Contains

high-mannose-type oligosaccharides.

Defects in SUMF1 are the cause of multiple sulfatase deficiency (MSD) [MIM:272200]. MSD is a clinically and biochemically heterogeneous disorder caused by the simultaneous impairment of all sulfatases,

due to defective post-translational modification and activation. It combines

features of individual sulfatase deficiencies such as metachromatic leukodystrophy, mucopolysaccharidosis,

chondrodysplasia punctata,

hydrocephalus, ichthyosis, neurologic deterioration and developmental delay. Inheritance is autosomal recessive. This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

## **Background Descriptions**

SUMF1 is a 374 amino acid alternatively spliced protein that localizes to the lumen of the endoplasmic reticulum and belongs to the sulfatase-modifying factor family. Expressed ubiquitously with highest expression in liver, kidney and pancreas, SUMF1 exists as either a monomer, a homodimer or a heterodimer (with SUMF2) and functions to oxidize sulfatase cysteine



residues to an active FGIy residue, thereby playing an important role in sulfatase activity. Defects in the gene encoding SUMF1 are the cause of multiple sulfatase deficiency (MSD), a heterogeneous disorder characterized by metachromatic leukodystrophy, mucopolysaccharidosis, chondrodysplasia punctata, hydrocephalus, ichthyosis, neurologic deterioration and developmental delay.

## **SUMF1 Polyclonal Antibody - Additional Information**

Gene ID 285362

#### **Other Names**

Formylglycine-generating enzyme, FGE, 1.8.3.7, C-alpha-formylglycine-generating enzyme 1, Sulfatase-modifying factor 1, SUMF1  $\{ECO:0000303|PubMed:12757706, ECO:0000312|HGNC:HGNC:20376\}$ 

## Target/Specificity

Ubiquitous. Highly expressed in kidney, pancreas and liver. Detected at lower levels in leukocytes, lung, placenta, small intestine, skeletal muscle and heart.

## **Dilution**

```
<span class ="dilution_WB">WB~~1:1000</span><br \><span class
="dilution_IHC-P">IHC-P~~N/A</span><br \><span class
="dilution_IHC-F">IHC-F~~N/A</span><br \><span class
="dilution_IF">IF~~1:50~200</span><br \><span class ="dilution_ICC">ICC~~N/A</span><br \><span class ="dilution_ICC">ICC~~N/A</span><br \><span class ="dilution_ICC">ICC~~N/A</span>
```

#### Storage

Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

## **SUMF1 Polyclonal Antibody - Protein Information**

Name SUMF1 {ECO:0000303|PubMed:12757706, ECO:0000312|HGNC:HGNC:20376}

## **Function**

Oxidase that catalyzes the conversion of cysteine to 3- oxoalanine on target proteins, using molecular oxygen and an unidentified reducing agent (PubMed:<a href="http://www.uniprot.org/citations/12757706" target="\_blank">12757706</a>, PubMed:<a href="http://www.uniprot.org/citations/15657036" target="blank">15657036</a>, PubMed:<a href="http://www.uniprot.org/citations/15907468" target="blank">15907468</a>, PubMed:<a href="http://www.uniprot.org/citations/16368756" target="\_blank">16368756</a>, PubMed:<a href="http://www.uniprot.org/citations/21224894" target="blank">21224894</a>, PubMed:<a href="http://www.uniprot.org/citations/25931126" target="\_blank">25931126</a>). 3oxoalanine modification, which is also named formylglycine (fGly), occurs in the maturation of arylsulfatases and some alkaline phosphatases that use the hydrated form of 3-oxoalanine as a catalytic nucleophile (PubMed: <a href="http://www.uniprot.org/citations/12757706" target=" blank">12757706</a>, PubMed:<a href="http://www.uniprot.org/citations/15657036" target=" blank">15657036</a>, PubMed:<a href="http://www.uniprot.org/citations/15907468" target="blank">15907468</a>, PubMed:<a href="http://www.uniprot.org/citations/16368756" target="blank">16368756</a>, PubMed:<a href="http://www.uniprot.org/citations/25931126" target="blank">25931126</a>). Known substrates include GALNS, ARSA, STS and ARSE (PubMed:<a href="http://www.uniprot.org/citations/12757706" target=" blank">12757706</a>, PubMed:<a href="http://www.uniprot.org/citations/15657036" target=" blank">15657036</a>,



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PubMed:<a href="http://www.uniprot.org/citations/15907468" target="\_blank">15907468</a>).

#### **Cellular Location**

Endoplasmic reticulum lumen

# **Tissue Location**

Ubiquitous. Highly expressed in kidney, pancreas and liver. Detected at lower levels in leukocytes, lung, placenta, small intestine, skeletal muscle and heart

## **SUMF1 Polyclonal Antibody - Protocols**

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

- Western Blot
- Blocking Peptides
- Dot Blot
- <u>Immunohistochemistry</u>
- Immunofluorescence
- <u>Immunoprecipitation</u>
- Flow Cytomety
- Cell Culture

**SUMF1 Polyclonal Antibody - Images**