

Human SULT1A3 Protein (His Tag)

Catalog Number: 11408-H07E



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

HAST; HAST3; M-PST; ST1A3; ST1A3/ST1A4; ST1A5; STM; SULT1A3; SULT1A4; TL-PST

Protein Construction:

A DNA sequence encoding the mature form of human SULT1A3 (P50224-1) (Glu2-Leu295) was expressed with a polyhistidine tag at the N-terminus.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 94 % as determined by SDS-PAGE

Bio Activity:

Measured by its ability to transfer sulfate from PAPS to 1-Napthol. The specific activity is > 150 pmoles/min/μg.

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

Molecular Mass:

The recombinant human SULT1A3 consists of 301 amino acids and predicts a molecular mass of 30.5 KDa. It migrates as an approximately 34 KDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

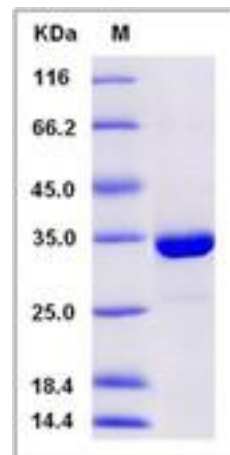
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

SULT1A3 belongs to the sulfotransferase 1 family. Sulfotransferase enzymes catalyze the sulfate conjugation of many hormones, neurotransmitters, drugs, and xenobiotic compounds. They are different in their tissue distributions and substrate specificities while their gene structure (number and length of exons) is similar. SULT1A3 gene encodes a phenol sulfotransferase with thermolabile enzyme activity. Four sulfotransferase genes are located on the p arm of chromosome 16; this gene and SULT1A4 arose from a segmental duplication. It is the most centromeric of the four sulfotransferase genes. Exons of this gene overlap with exons of a gene that encodes a protein containing GIY-YIG domains (GIYD1). SULT1A3 is expressed in liver, colon, kidney, lung, brain, spleen, small intestine, placenta and leukocyte. SULT1A3 is a sulfotransferase that utilizes 3'-phospho-5'-adenylyl sulfate (PAPS) as sulfonate donor to catalyze the sulfate conjugation of phenolic monoamines (neurotransmitters such as dopamine, norepinephrine and serotonin) and phenolic and catechol drugs.

References

1. Dajani R, *et al.* (1999) Kinetic properties of human dopamine sulfotransferase (SULT1A3) expressed in prokaryotic and eukaryotic systems: comparison with the recombinant enzyme purified from *Escherichia coli*. *Protein Expr. Purif.* 16 (1): 11-8.
2. Dajani R, *et al.* (2000) X-ray crystal structure of human dopamine sulfotransferase, SULT1A3. *J. Biol. Chem.* 274 (53): 37862-8.
3. Yasuda S, *et al.* (2011) Sulfation of chlorotyrosine and nitrotyrosine by human lung endothelial and epithelial cells: role of the human SULT1A3. *Toxicol Appl Pharmacol.* 251 (2): 104-9.

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