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SULT1A1 Antibody (Center) Blocking Peptide
Synthetic peptide
Catalog # BP2606b

Specification

SULT1A1 Antibody (Center) Blocking Peptide - Product Information

Primary Accession	P50225
Other Accession	NP_001046

SULT1A1 Antibody (Center) Blocking Peptide - Additional Information

Gene ID 6817

Other Names
Sulfotransferase 1A1, ST1A1, Aryl sulfotransferase 1, HAST1/HAST2, Phenol sulfotransferase 1, Phenol-sulfating phenol sulfotransferase 1, P-PST 1, ST1A3, Thermostable phenol sulfotransferase, Ts-PST, SULT1A1, STP, STP1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP2606b was selected from the Center region of human SULT1A1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

SULT1A1 Antibody (Center) Blocking Peptide - Protein Information

Name SULT1A1

Synonyms STP, STP1

Function
Sulfotransferase that utilizes 3'-phospho-5'-adenylyl sulfate (PAPS) as sulfonate donor to catalyze the sulfate conjugation of a wide variety of acceptor molecules bearing a hydroxyl or an amine group. Sulfonation increases the water solubility of most compounds, and therefore their renal excretion, but it can also result in bioactivation to form active metabolites. Displays broad substrate specificity for small phenolic compounds. Plays an important role in the sulfonation of endogenous molecules such as steroid hormones (PubMed:12471039, PubMed:<a

href="http://www.uniprot.org/citations/16221673" target="_blank">16221673, PubMed:21723874, PubMed:22069470, PubMed:7834621). Mediates the sulfate conjugation of a variety of xenobiotics, including the drugs acetaminophen and minoxidil (By similarity). Mediates also the metabolic activation of carcinogenic N- hydroxyarylamines leading to highly reactive intermediates capable of forming DNA adducts, potentially resulting in mutagenesis (PubMed:7834621). May play a role in gut microbiota-host metabolic interaction. O-sulfonates 4-ethylphenol (4-EP), a dietary tyrosine- derived metabolite produced by gut bacteria. The product 4-EPS crosses the blood-brain barrier and may negatively regulate oligodendrocyte maturation and myelination, affecting the functional connectivity of different brain regions associated with the limbic system (PubMed:35165440). Catalyzes the sulfate conjugation of dopamine (PubMed:8093002). Catalyzes the sulfation of T4 (L-thyroxine/3,5,3',5'- tetraiodothyronine), T3 (3,5,3'-triiodothyronine), rT3 (3,3',5'-triiodothyronine) and 3,3'-T2 (3,3'-diiodothyronine), with a substrate preference of 3,3'-T2 > rT3 > T3 > T4 (PubMed:10199779).

Cellular Location
Cytoplasm.

Tissue Location
Liver, lung, adrenal, brain, platelets and skin.

SULT1A1 Antibody (Center) Blocking Peptide - Protocols

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

- Blocking Peptides

SULT1A1 Antibody (Center) Blocking Peptide - Images

SULT1A1 Antibody (Center) Blocking Peptide - Background

Sulphation is a significant detoxification pathway for diverse xenobiotics, yet this modification also plays an important role in the metabolism and bioactivation of many dietary and environmental mutagens, including heterocyclic amines implicated in the pathogenesis of several cancers. A major human sulfotransferase, SULT1A1, metabolizes and/or bioactivates many endogenous compounds and is implicated in a range of cancers because of its ability to transform xenobiotics to cellular mutagens and carcinogens. Genetic polymorphisms in human sulfotransferase 1A1 SULT1A1 have a major impact on SULT1A1 enzyme activity and affect the risk for cancer development in humans. A G--->A transition at codon 213 (CGC/Arg to CAC/His) of the SULT1A1 gene has been identified (SULT1A1*2), and individuals homozygous for the His allele have a markedly lower activity and stability of this enzyme than those with the high activity SULT1A1*1 allozyme, which has been associated with protection against dietary toxins and reduced susceptibility to colorectal and breast cancers.There is an increasing incidence of SULT1A1*1 homozygosity and decreasing incidence of SULT1A1*2 homozygosity with increasing age, indicating a potential association of SULT1A1*1 allozyme(s) with protection against cell and/or tissue damage during aging. CLN3, the locus for Batten disease, maps to the same region 16p12.1-p11.2 as SULT12A1, making SULT1A1 a candidate gene for this disorder.

SULT1A1 Antibody (Center) Blocking Peptide - References

Carcinogenesis 25 (5), 773-778 (2004)J. Biol. Chem. 279 (18), 18799-18805 (2004)Cancer Lett. 202

(1), 61-69 (2003)J. Biol. Chem. 278 (9), 7655-7662 (2003)Int. J. Cancer 103 (1), 101-104 (2003)Chem. Biol. Interact. 129 (1-2), 141-170 (2000)