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SULT1A1 Rabbit pAb

Catalog # AP98412

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	P50225
Other Accession	P50225
Predicted	Rat, Pig, Human, Mouse, Chicken, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	34165
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human SULT1A1
Epitope Specificity	151-250/295
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the sulfotransferase 1 family.
SUBUNIT	Homodimer.
Post-translational modifications	Substrate for botulinum ADP-ribosyltransferase. Cleaved by yopT protease when the cell is infected by some Yersinia pathogens. This removes the lipid attachment, and leads to its displacement from plasma membrane and to subsequent cytoskeleton cleavage. AMPylation at Tyr-34 and Thr-37 are mediated by bacterial enzymes in case of infection by H.somnus and V.parahaemolyticus, respectively. AMPylation occurs in the effector region and leads to inactivation of the GTPase activity by preventing the interaction with downstream effectors, thereby inhibiting actin assembly in infected cells. It is unclear whether some human enzyme mediates AMPylation; FICD has such ability in vitro but additional experiments remain to be done to confirm results in vivo. Phosphorylation by PRKG1 at Ser-188 inactivates RHOA signaling. Ubiquitinated by the BCR(BACURD1) and BCR(BACURD2) E3 ubiquitin ligase complexes, leading to its degradation by the proteasome, thereby regulating the actin cytoskeleton and cell migration.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Sulfotransferase enzymes catalyze the sulfate conjugation of many hormones, neurotransmitters, drugs, and xenobiotic compounds. These cytosolic enzymes are different in their tissue distributions and substrate specificities. The gene structure (number and length of exons) is similar among family members. This gene encodes one of two phenol sulfotransferases with thermostable enzyme activity. Multiple alternatively spliced variants that encode two isoforms have been identified for this gene.

Additional Information

Gene ID	6817

Other Names	HAST1/HAST2; P-PST; P-PST 1; PST; ST1A1; ST1A3; STP; STP1; TSPST1; ts-PST; ST1A4; mSTp1; ST1A1_HUMAN; SULT1A1; Aryl sulfotransferase 1; Phenol sulfotransferase 1; Phenol-sulfating phenol sulfotransferase 1 (P-PST 1); Thermostable phenol sulfotransferase (Ts-PST); 2.8.2.1; ST1A1_MOUSE; Aryl sulfotransferase; Phenol sulfotransferase; Phenol/aryl sulfotransferase (mSTp1); Sulfokinase; sulfotransferase family 1A member 1; sulfotransferase family, cytosolic, 1A, phenol-preferring, member 1
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000
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.

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: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.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.