SULT1E1 Protein, Human (His)

Cat. No.:	HY-P76099
Synonyms:	Sulfotransferase 1E1; ST1E1; EST-1; Estrogen sulfotransferase; STE
Species:	Human
Source:	E. coli
Accession:	P49888 (N2-I294)
Gene ID:	6783
Molecular Weight:	Approximately 33 kDa

PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Solution
Formulation	Supplied as a 0.2 μm filtered solution of 20 mM Tris 0.5 M NaCl, 20% Glycerol, pH 8.0.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background	SULT1E1 protein, a sulfotransferase utilizing 3'-phospho-5'-adenylyl sulfate (PAPS) as a sulfonate donor, plays a pivotal role in estrogen homeostasis by catalyzing the sulfate conjugation of estradiol and estrone, contributing to the inactivation of these hormones. Beyond its primary function in estrogen metabolism, SULT1E1 demonstrates versatility by sulfating dehydroepiandrosterone (DHEA), pregnenolone, (24S)-hydroxycholesterol, and various xenobiotic compounds such as ethinylestradiol, equalenin, diethyl stilbesterol, and 1-naphthol, albeit with lower efficiency. Notably, SULT1E1 does not sulfonate cortisol, testosterone, and dopamine. Moreover, this sulfotransferase may be implicated in gut microbiota-host metabolic interactions, as it O-sulfonates 4-ethylphenol (4-EP), a tyrosine-derived metabolite produced by gut bacteria. The resulting product, 4-EPS, crosses the blood-brain barrier and potentially exerts regulatory effects on oligodendrocyte maturation and myelination, influencing the functional connectivity of brain regions associated with the limbic system. The diverse substrate specificity of SULT1E1 highlights its crucial role in hormonal regulation and suggests its involvement in broader physiological processes, including gut-brain interactions with potential implications for neurological functions.

Caution: Product has not been fully validated for medical applications. For research use only.

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