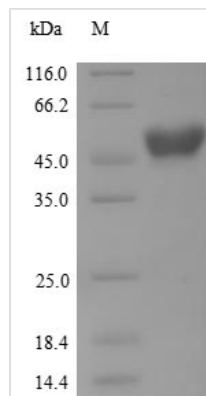




Recombinant Human Serotonin N-acetyltransferase (AANAT)

Product Code	CSB-EP623090HU
Relevance	Controls the night/day rhythm of melatonin production in the pineal gland. Catalyzes the N-acetylation of serotonin into N-acetylserotonin, the penultimate step in the synthesis of melatonin.
Abbreviation	Recombinant Human AANAT protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q16613
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	MSTQSTHPLKPEAPRLPPGIPESPSCQRRHTLPASEFRCLTPEDAVSAFEIERE AFISVLGVCPYLDEIRHFLTLCPELSLGWFEEGCLVAFIIGSLWDKERLMQESL TLHRSGGHIAHLHVLAVHRAFRQQGRGPILLWRYLHHLGSQPAVRRRAALMCE DALVPFYERFSFHAVGPCAITVGSITFMELHCSLRGHPFLRRNSGC
Research Area	Neuroscience
Source	E.coli
Target Names	AANAT
Protein Names	Aralkylamine N-acetyltransferase
Expression Region	1-207aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-GST-tagged
Mol. Weight	51.8 kDa
Protein Length	Full Length
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Amino acids 1-207 constitute the expression domain of recombinant Human AANAT. This AANAT protein is theoretically predicted to have a molecular weight of 51.8 kDa. This AANAT protein is produced using e.coli expression system. Fusion of the N-terminal 10xHis-GST tag into the AANAT encoding gene fragment was conducted, allowing for easier detection and purification of the AANAT protein in subsequent stages.

Human serotonin N-Acetyltransferase (AANAT) is a key enzyme in the synthesis of melatonin, the hormone that regulates circadian rhythms. AANAT catalyzes the conversion of serotonin to N-acetylserotonin, a precursor in melatonin biosynthesis. In chronobiology, AANAT is pivotal for the molecular clock, linking light-dark cycles to melatonin production. In neuroscience, AANAT influences sleep-wake cycles and mood regulation. In endocrinology, melatonin has roles in reproductive physiology and immune function. Investigating AANAT provides insights into circadian rhythm regulation, sleep disorders, and mood-related conditions, offering potential applications in chronotherapy, neuropsychiatry, and endocrine research for therapeutic interventions and understanding melatonin's broader physiological roles.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.