



Rabbit Anti-phospho-AANAT (Thr29) antibody

SL11448R

Product Name:	phospho-AANAT (Thr29)
Chinese Name:	磷酸化芳香胺N-乙酰化转移酶抗体
Alias:	p-AANAT(Thr29); p-AANAT(T29); AANAT(phospho Thr29); p-AANAT(phospho-T29); Serotonin N-acetyltransferase (phospho T29); AANAT (phospho-Thr29); AANAT; Arylalkylamine N acetyltransferase; SNAT_HUMAN; Serotonin N-acetyltransferase; SNAT; Serotonin acetylase; Aralkylamine N-acetyltransferase; AA-NAT.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Chicken,Dog,Pig,
Applications:	ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800ICC=1:100-500IF=1:100-500 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	23kDa
Cellular localization:	cytoplasmic
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthesised phosphopeptide derived from human AANAT around the phosphorylation site of Thr29:RH(p-T)LP
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. 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.
PubMed:	PubMed
Product Detail:	Arylalkylamine N-acetyltransferase belongs to the superfamily of acetyltransferases. It

is the penultimate enzyme in melatonin synthesis and controls the night/day rhythm in melatonin production in the vertebrate pineal gland. Melatonin is essential for seasonal reproduction, modulates the function of the circadian clock in the suprachiasmatic nucleus, and influences activity and sleep. This enzyme is rapidly inactivated when animals are exposed to light at night. This protein is 80% identical to sheep and rat AA-NAT. Arylalkylamine N-acetyltransferase may contribute a multifactorial genetic diseases such as altered behavior in sleep/wake cycle.

Function:

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.

Subunit:

Monomer. Interacts with several 14-3-3 proteins, including YWHAB, YWHAE, YWHAG and YWHAZ, preferentially when phosphorylated at Thr-31. Phosphorylation on Ser-205 also allows binding to YWHAZ, but with lower affinity. The interaction with YWHAZ considerably increases affinity for arylalkylamines and acetyl-CoA and protects the enzyme from dephosphorylation and proteasomal degradation. It may also prevent thiol-dependent inactivation.

Subcellular Location:

Cytoplasmic

Tissue Specificity:

Highly expressed in pineal gland and at lower levels in the retina. Weak expression in several brain regions and in the pituitary gland.

Post-translational modifications:

cAMP-dependent phosphorylation on both N-terminal Thr-31 and C-terminal Ser-205 regulates AANAT activity by promoting interaction with 14-3-3 proteins.

DISEASE:

Delayed sleep phase syndrome (DSPS) [MIM:614163]: A circadian rhythm sleep disorder characterized by sleep-onset insomnia and difficulty in awakening at the desired time. Patients with DSPS have chronic difficulty in adjusting their sleep-onset and wake-up times to occupational, school, and social activities. Note=Disease susceptibility may be associated with variations affecting the gene represented in this entry. Susceptibility to delayed sleep phase syndrome can be conferred by variant Thr-129. Thr-129 shows a significantly higher frequency in affected individuals than in healthy controls.

Similarity:

Belongs to the acetyltransferase family. AANAT subfamily.
Contains 1 N-acetyltransferase domain.

SWISS:
Q16613

Gene ID:
15

Database links:

[Entrez Gene: 503504](#)Chimpanzee

[Entrez Gene: 15](#)Human

[Entrez Gene: 11298](#)Mouse

[Entrez Gene: 25120](#)Rat

[SwissProt: P79774](#)Chicken

[SwissProt: Q5IS55](#)Chimpanzee

[SwissProt: Q16613](#)Human

[SwissProt: O88816](#)Mouse

[SwissProt: Q64666](#)Rat

[Unigene: 431417](#)Human

[Unigene: 418559](#)Mouse

[Unigene: 42233](#)Mouse

[Unigene: 88180](#)Rat

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.