

Product Information

Anti-phospho-Serotonin N-Acetyltransferase (N-Terminal) (pThr²⁹)

produced in rabbit, affinity isolated antibody

Catalog Number **S0814**

Product Description

Anti-phospho-Serotonin N-Acetyltransferase (N-Terminal) (pThr²⁹) is produced in rabbit using as immunogen a synthetic phosphopeptide derived from the N-terminus of the rat arylalkylamine N-acetyltransferase (AA-NAT) containing threonine 29. The serum is affinity purified using epitope-specific affinity chromatography. Anti-phospho-AA-NAT (pThr²⁹) recognizes rat AA-NAT (pThr²⁹). It has been used in immunoblotting applications.

Pineal gland serotonin AA-NAT, a 23 kDa protein, is the rate-limiting enzyme in pineal and retinal melatonin synthesis. The nocturnal oscillation of enzyme activity ranges from 10- to 100- fold depending on vertebrate species. The enzyme converts serotonin to N-acetylserotonin.^{1,2}

Studies have shown that AA-NAT is regulated by cAMP at both mRNA and protein levels. Phosphorylation of AA-NAT promotes formation of a complex AA-NAT/14-3-3 which protects AA-NAT from dephosphorylation and increases melatonin production.^{3,4} AA-NAT has two protein kinase A binding sites: threonine 29 at the N-terminus and serine 206 at the C-terminus. Phosphorylation of AA-NAT at these residues might play a role in protein inactivation by proteasome-dependent degradation.

Reagent

Supplied as a solution in phosphate buffered saline (PBS) containing 1 mg/ml BSA and 0.05% sodium azide

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store at -20 °C. For extended storage, upon initial thawing, freeze in working aliquots. Avoid repeated freezing and thawing to prevent denaturation of the antibody. Working dilution samples should be discarded if not used within 12 hours. The antibody is stable for at least 6 months when stored appropriately. Do not store in a frost-free freezer.

Product Profile

Immunoblotting: a working concentration of 0.5 µg/ml is recommended using cell lysates from transfected 293T cells.

Data demonstrate that only phosphopeptide corresponding to the region containing threonine 29 blocks the antibody signal, confirming the specificity of Anti-phospho-Serotonin N-Acetyltransferase (N-Terminal) (pThr²⁹) for this phosphos phosphorylated residue.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

1. Zhan-Poe, X. and Craft, C.M., *J. Pineal. Res.*, **27**, 49-58 (1999).
2. Herichova, I. et al., *Neurosci. Lett.*, **298**, 123-126 (2001).
3. Li, X., et al., *Curr. Opin. Neurobiol.*, **8**, 648-651 (1998).
4. Ganguly, S., et al., *Proc. Natl. Acad. Sci. USA*, **98**, 8083-8088 (2001).

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