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# CHRNA3 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP5022A

## Product Information

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| **Application** | WB, IHC-P, E |
| **Primary Accession** | P32297 |
| **Other Accession** | Q07263 |
| **Reactivity** | Human |
| **Predicted** | Bovine, Mouse, Rat, Canine, Rabbit |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Clone Names** | RB25608 |
| **Calculated MW** | 57480 |
| **Antigen Region** | 25-52 |

## Additional Information

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| **Gene ID** | 1136 |
| **Other Names** | Neuronal acetylcholine receptor subunit alpha-3, CHRNA3, NACHRA3 |
| **Target/Specificity** | This CHRNA3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 25-52 amino acids from the N-terminal region of human CHRNA3. |
| **Dilution** | WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification. |
| **Storage** | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | CHRNA3 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | CHRNA3 ( HGNC:1957) |
| **Synonyms** | NACHRA3 |
| **Function** | Component of neuronal acetylcholine receptors (nAChRs) that function as |

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| | pentameric, ligand-gated cation channels with high calcium permeability among other activities. nAChRs are excitatory neurotrasnmitter receptors formed by a collection of nAChR subunits known to mediate synaptic transmission in the nervous system and the neuromuscular junction. Each nAchR subunit confers differential attributes to channel properties, including activation, deactivation and desensitization kinetics, pH sensitivity, cation permeability, and binding to allosteric modulators (PubMed:31488329, PubMed:31708116). CHRNA3 forms heteropentameric neuronal acetylcholine receptors with CHRNB2 and CHRNB4, with CHRNA5, and CHRNB3 as accesory subunits (PubMed:20881005, PubMed:8663494). CHRNA3:CHRNB4 being predominant in neurons of the autonomic ganglia, it is known as ganglionic nicotinic receptor (PubMed:31488329). CHRNA3:CHRNB4 or CHRNA3:CHRNA5:CHRNB4 play also an important role in the habenulo-interpeduncular tract, modulating the mesolimbic dopamine system and affecting reward circuits and addiction (By similarity). Hypothalamic CHRNA3:CHRNB4 nAChR activation by nicotine leads to activation of POMC neurons and a decrease in food intake (By similarity). Also expressed in the urothelium where it modulates reflex bladder activity by increasing intracellular calcium through extracellular influx and basal ATP release (By similarity). |
| **Cellular Location** | Synaptic cell membrane {ECO:0000250\|UniProtKB:P04757}; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Endoplasmic reticulum {ECO:0000250\|UniProtKB:P04757}. Golgi apparatus {ECO:0000250\|UniProtKB:P04757}. Note=Interaction with UBXN2A/UBXD4 promotes translocation to the plasma membrane {ECO:0000250\|UniProtKB:P04757} |

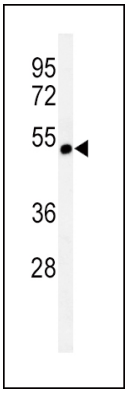
## Background

CHRNA3 locus encodes a member of the nicotinic acetylcholine receptor family of proteins. Members of this family of proteins form pentameric complexes comprised of both alpha and beta subunits. This locus encodes an alpha-type subunit, as it contains characteristic adjacent cysteine residues. The encoded protein is a ligand-gated ion channel that likely plays a role in neurotransmission. Polymorphisms in this gene have been associated with an increased risk of smoking initiation and an increased susceptibility to lung cancer. Alternatively spliced transcript variants have been described.

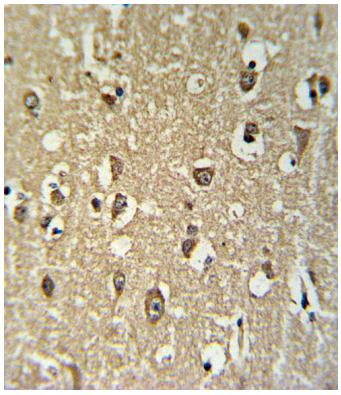
## References

Cho, M.H., et al. Nat. Genet. 42(3):200-202(2010)
Girard, N., et al. Clin. Cancer Res. 16(2):755-763(2010)
Grando, S.A., et al. J. Invest. Dermatol. 105(6):774-781(1995)

## Images




Western blot analysis of CHRNA3 Antibody (N-term) (Cat. #AP5022a) in CEM cell line lysates (35ug/lane).CHRNA3 (arrow) was detected using the purified Pab.



CHRNA3 Antibody (N-term) (Cat. #AP5022a) IHC analysis in formalin fixed and paraffin embedded brain tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the CHRNA3 Antibody (N-term) for immunohistochemistry. Clinical relevance has not been evaluated.

## Citations

- Cellular Zinc Homeostasis Contributes to Neuronal Differentiation in Human Induced Pluripotent Stem Cells.

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