

**Antibody to Nicotinic Acetylcholine Receptor alpha 1 (mAb 35)**
RAT MONOCLONAL

Catalog Number:	AB-N36
Quantity:	100 micrograms
Format:	Purified on a Protein A column; PBS (0.14 M Sodium Chloride; 0.003 M Potassium Chloride; 0.002 M Potassium Phosphate; 0.01 M Sodium Phosphate; pH 7.4).
Host:	Rat
Isotype:	IgG ₁
Clone:	35
Immunogen:	full-length denatured AChR α 1

Background: Nicotinic Acetylcholine Receptors (nAChR) respond to acetylcholine as well as nicotine. This antibody can be used to map structural features on the surface of the acetylcholine molecule relevant to the aspect of its function as a neurotransmitter receptor. Acetylcholine receptor plays a role as an immunogen and antigen in the autoimmune disease Myasthenia Gravis (MG). Anti-nAChR is also useful in the research of Alzheimer's disease and other neurodegenerative diseases.

Specificity & Preparation: This antibody binds to nicotinic acetylcholine receptors (nAChR) in several species, including human and rat. The antibody was originally raised against the electric organ of *Electrophorus electricus* and produces experimental autoimmune myasthenia graves. mAb 35 cross-reacts with muscle-type and some neuronal nAChRs. It reacts with a single epitope in α 1, α 3, and α 5 subunits of nAChR.

Usage: Applications include immunohistochemistry (1:3000),⁵ *in vivo* (20 μ g),³ immunocytochemistry (10 nM),² upregulation of myocytes *in vitro* (50 μ g/ml),¹ and receptor affinity purification.⁴

Storage: Store the antibody at 4°C for one year. Avoid repeated freezing and thawing. Gently spin down material 5-10 seconds in a microfuge before use.



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Selected References:

1. Garcia YR, May JJ, Green AM, Krolick KA (2001) Acetylcholine receptor-reactive antibody induces nitric oxide production by a rat skeletal muscle cell line: influence of cytokine environment. *J Neuroimmunol* 120(1-2):103-111.
2. McNerney ME, Pardi D, Pugh PC, Nai Q, Margiotta JF (2000) Expression and channel properties of alpha-bungarotoxin-sensitive acetylcholine receptors on chick ciliary and choroid neurons. *J Neurophysiol* 84(3):1314-1329.
3. Reyes-Reyna SM, Krolick KA (2000) Chemokine production by rat myocytes exposed to interferon-gamma. *Clin Immunol* 94(2):105-113.
4. Tierney ML, Unwin N (2000) Electron microscopic evidence for the assembly of soluble pentameric extracellular domains of the nicotinic acetylcholine receptor. *J Mol Biol* 303(2):185-196.
5. Kirchgessner AL, Liu MT (1998) Immunohistochemical localization of nicotinic acetylcholine receptors in the guinea pig bowel and pancreas. *J Comp Neurol* 390(4):497-514.
6. Swanson LW, Lindstrom J, Tzartos S, Schmued LC, O'Leary DD, Cowan WM (1983) Immunohistochemical localization of monoclonal antibodies to the nicotinic acetylcholine receptor in chick midbrain. *Proc Natl Acad Sci USA* 80(14):4532-4536.
7. Tzartos SJ, Rand DE, Einarson BL, Lindstrom JM (1981) Mapping of surface structures of electrophorus acetylcholine receptor using monoclonal antibodies. *J Biol Chem* 256(16):8635-8645.

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