

## Product Information

### Anti- $\alpha_{2A}$ Adrenergic Receptor

produced in rabbit, affinity isolated antibody

Catalog Number **A271**

#### Product Description

Anti- $\alpha_{2A}$  Adrenergic Receptor was produced in rabbit using as immunogen a synthetic peptide, Arg-Ile-Tyr-Gln-Ile-Ala-Lys-Arg-Arg-Thr-Arg-Val-Pro-Pro-Ser-Arg-Arg-Gly, derived from amino acids 218-235 of human, mouse, rat and pig  $\alpha_{2A}$  adrenergic receptor. This sequence is found within the third intracellular loop of the  $\alpha_{2A}$  adrenergic receptor subtype. The antibody is purified from rabbit serum by epitope affinity chromatography.

Anti- $\alpha_{2A}$  Adrenergic Receptor detects rat and mouse  $\alpha_{2A}$  adrenergic receptors by immunoblotting and immunohistochemistry. By immunoblotting, Anti- $\alpha_{2A}$  Adrenergic Receptor detects a ~45 kDa band representing  $\alpha_{2A}$  receptors in tissues expressing this receptor subtype although some non-specific bands have been observed.

Adrenergic receptors (ARs) are members of the 7-transmembrane domain G protein-coupled receptor superfamily that bind the endogenous catecholamines epinephrine and norepinephrine. Pharmacological, structural, and molecular cloning data indicate significant heterogeneity within this receptor family. Nine receptor subtypes have been identified thus far including three  $\alpha_1$ AR subtypes ( $\alpha_{1A/D}$ ,  $\alpha_{1B}$ , and  $\alpha_{1C}$ ), three  $\alpha_2$ ARs ( $\alpha_{2A}$ ,  $\alpha_{2B}$ , and  $\alpha_{2C}$ ), and three  $\beta$  AR subtypes ( $\beta_1$ ,  $\beta_2$ , and  $\beta_3$ ). Adrenergic receptors participate in either the onset or maintenance of several disease states including hypertension, cardiac dysfunction (congestive heart failure, ischemia, arrhythmias), diabetes, glaucoma, depression, and impotence.

$\alpha_2$ AR subtypes inhibit adenylyl cyclase, suppress voltage-sensitive  $Ca^{2+}$  channels, and activate receptor-dependent  $K^+$  channels. All of the  $\alpha_2$ AR subtypes inhibit adenylyl cyclase through coupling to members of the  $G_i/G_o$  class of G proteins. They are an essential component of the neural circuitry regulating cardiovascular physiology. The physiological function of the  $\alpha_2$ ARs in the kidney is to regulate  $Na^+/H^+$  exchange although the role of  $\alpha_2$ AR subtypes remains to be precisely determined.

#### Reagents

Supplied as a solution in phosphate buffered saline containing 1.0 mg/ml BSA and 0.05% sodium azide as a preservative.

#### 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

For continuous use, store at 2-8 °C for up to one month. For extended storage, solution may be frozen in working aliquots. Storage in "frost-free" freezers, or repeated freezing and thawing, is not recommended. If slight turbidity occurs upon prolonged storage, clarify by centrifugation before use.

#### Product Profile

Recommended working dilutions:

Immunoblotting: 1:500

Immunohistochemistry: 1:1,000

#### References

1. Milner, T.A. et al. *J. Comp. Neurol.*, **395**, 310 (1998).

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