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Product Information

Anti-Pituitary Adenylate Cyclase Activating Polypeptide Type 1 Receptor
produced in rabbit, affinity isolated antibody

Catalog Number **P8872**

Synonym: Anti-PACAP Receptor Type 1

Product Description
Anti-Pituitary Adenylate Cyclase Activating Polypeptide Type 1 Receptor is produced in rabbit using as immunogen a synthetic peptide conjugated to KLH. The peptide corresponds to the extracellular N-terminus of human PACAP Receptor Type 1. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-PACAP Receptor Type 1 specifically recognizes human PACAP Receptor Type 1 by immunohisto-chemistry with formalin-fixed, paraffin-embedded tissues. Not tested for other uses. The human receptor has 94% homology with mouse and rat genes. Other species reactivity has not been confirmed.

Pituitary Adenylate Cyclase-Activating Polypeptide (PACAP) Receptor Type I is a hormone originally isolated from sheep hypothalamus on the basis of its ability to stimulate adenylate cyclase in rat anterior pituitary cell cultures. PACAP is present not only in the central nervous system but also in peripheral tissues, including the gastrointestinal tract, adrenal gland, and testes. Its actions include the stimulation of secretion of growth hormone, ACTH, catecholamines, and insulin, as well as other hormones. In addition, it appears to function as a neuromodulator/neurotransmitter in the central and peripheral nervous systems.

The diverse biologic actions of PACAP are mediated by receptors that are positively coupled to adenylate cyclase by $G_{s\text{-}\alpha}$. Three different receptors for PACAP have been identified, each of which contains 7 transmembrane segments and shares significant homology with members of the glucagon/secretin receptor family. The type 1 receptor, which is found in the hypothalamus, brain stem, pituitary, adrenal gland, pancreas, and testes, has a high affinity only for PACAP.

The type 2 receptor is found in the brain. The adrenal gland has a high affinity for both PACAP and for vasoactive intestinal peptide. Type I PACAP receptors are present in the early stages of the human medulla organization during the process of migration of chromaffin cells from the periphery to the central part of the adrenal gland. PACAP could be involved in the regulation of the human adrenochromaffin cells during ontogenesis.

PACAP receptor type 1 expression has been documented in adipose, adrenal, bone, brain, colon, ganglion, heart, lung, ovary, pancreas, placenta, spleen, and uterus. ESTs have been isolated from brain and nerve libraries.

Reagent
Supplied as a solution of 1 mg/ml in phosphate buffered saline containing 0.1% 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
For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile
Immunohistochemistry: a working concentration of ≥ 7 µg/mL is recommended using human pituitary tissues.

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

References

1. Brabet, P., et al., Localization of the human pituitary adenylate cyclase-activating polypeptide receptor (PACAP-1-R) gene to 7p15-p14 by fluorescence in situ hybridization., *Genomics,* **38**, 100-102 (1996).
2. Yon, L., et al., Localization, characterization, and second messenger coupling of pituitary adenylate cyclase-activating polypeptide receptors in the fetal human adrenal gland during the second trimester of gestation., *J. Clin. Endocr. Metab.,* **83**, 1299-1305 (1998).
3. Zeng, N., et al., PACAP type I receptor activation regulates ECL cells and gastric acid secretion. *J. Clin. Invest*., **104**, 1383-1391 (1999).

This product manufactured by MBL International.

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