3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone (800) 325-5832 (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

ANTI-VASOACTIVE INTESTINAL PEPTIDE (VIP)
Developed in Rabbit
Delipidized, Whole Antiserum

Product No. **V3508**

Product Description

Anti-Vasoactive Intestinal Peptide (VIP) is developed in rabbits using synthetic vasoactive intestinal peptide conjugated to KLH as the immunogen.

Anti-Vasoactive Intestinal Peptide (VIP) reacts with VIP conjugated to BSA in immunoblotting. Cross-reactivity is observed with VIP fragment (10-28) conjugated to BSA. The antiserum shows no cross-reactivity with substance P, neurokinin A, neurokinin B, neuropeptide Y (porcine), calcitonin gene related peptide (CGRP) (rat), PHI-27, calcitonin or somatostatin conjugated to BSA, and BSA. The antiserum reacts with VIP-containing fibers and terminals in frozen sections of rat brain obtained following perfusion fixation with 4% paraformaldehyde. Absorption studies have shown that specific staining of tissue may be inhibited by pre-incubation of the antiserum with 10 µM VIP.

Anti-Vasoactive Intestinal Peptide (VIP) may be used for the immunodetection of VIP in various immunoassays including dot blot, RIA and ELISA. The antibody will localize VIP by various immunohistochemical methods using formalin-fixed, frozen or Vibratome sections of rat, cat, porcine, bovine, monkey and human brain.

Vasoactive Intestinal Peptide (VIP), a 28 amino acid peptide originally isolated from porcine intestine, is a neuropeptide with a broad range of biological activities. VIP belongs to the glucagon/secretin family of peptides and is closely related to peptide histidine isoleucine (PHI), derived from the same VIP precursor protein.[1] VIP is widely distributed throughout the central nervous system (CNS) and peripheral nervous system, and may be found in the brain, spinal cord, neurons of the gastro-intestinal tract, sensory epithelium, exocrine glands and non-neuronal tissue such as mast cells and leukocytes.[2-7] In the CNS, VIP acts as a neurotransmitter or neuromodulator.[2,3] VIP immunoreactive neurons are densely localized in the hypothalamic nuclei including the paraventricular nucleus (PVN) and the median eminence (ME). VIP has potent hypotensive and vaso-dilatory action and is present in high concentrations in the hypothalamo-hypophysial portal system indicating a local vasoregulatory function of VIP in the brain.[7] VIP stimulates or inhibits glandular secretion (e.g., stimulation of pancreatic insulin release) and release of catecholamines from the adrenal medulla.[8] VIP has trophic and mitogenic activity on neural tissue during embryonic development, and inhibits the growth and mitosis of certain tumors.[9,10] The survival promoting activity of VIP appears to be indirectly mediated through astrocytes.[11] The actions of VIP are mediated by two different receptor subtypes, a low-affinity receptor (nM range) and a high-affinity receptor (pM range).[12] The low-affinity VIP receptor is coupled to the adenylate cyclase system. Stimulation of VIP low affinity receptors in many tissues and in various areas of the brain (i.e., cortex, hypothalamus, striatum and hippocampus) activates adenylate cyclase, leading to an increase of cAMP. In contrast, the high-affinity VIP receptors found on astrocytes, and VIP receptors in certain areas of the brain (i.e., caudate nucleus, brain stem) appear to be coupled to a second messenger pathway different than the adenylate cyclase/cAMP.[3,13] Antibodies that react specifically with VIP are useful for studying the mode of action, differential tissue expression, and intracellular and subcellular localization of VIP in the central and peripheral nervous systems.

Reagents

The product is provided as delipidized,whole antiserum with 0.1% sodium azide as a preservative.

Precautions and Disclaimer

Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Product Profile
Protein concentration is determined by Biuret.

1. A minimum working dilution of 1:10,000 was determined by dot blot immunoassay using vasoactive intestinal peptide-BSA (0.03 - 0.25 ng/dot).
2. A minimum working dilution of 1:8,000 was determined by indirect immunohistology using 4% paraformaldehyde perfusion-fixed, frozen sections of rat brain.

In order to obtain best results in different preparations, it is recommended that each individual user determine their optimal working dilutions by titration assay.

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

References

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