Human Neuronostatin Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2956E
Catalog Number: MAB11554

DESCRIPTION

Species Reactivity	Human
Specificity	Detects a peptide specific for Neuronostatin in a region around amino acid 95 in Direct ELISA.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2956E
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human Neuronostatin containing synthetic peptide
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Immunocytochemistry	1-10 µg/mL	fixed TT human medullary thyroid cancer cell line (Positive) and absent in THP-1 human acute monocytic leukemia cell line (Negative)
Immunohistochemistry	1-10 µg/mL	Immersion fixed paraffin-embedded sections of human pancreas
Simple Western	20 µg/mL	Neuronostatin peptide SML0354

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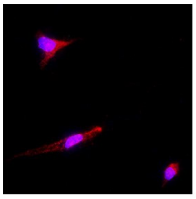
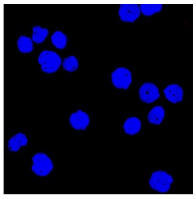
DATA

Immunocytochemistry/ Immunofluorescence



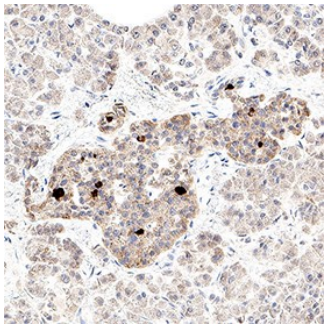
TT (Positive) cells



THP-1 (Negative) cells

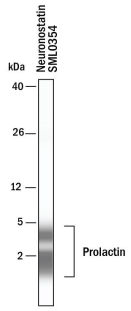
Detection of Neuronostatin in TT cells (Positive) and THP-1 cells (Negative). Neuronostatin was detected in fixed TT human medullary thyroid cancer cell line (Positive) and absent in THP-1 human acute monocytic leukemia cell line (Negative) using Rabbit Anti-Human Neuronostatin Monoclonal Antibody (Catalog # MAB11554) at 3 µg/ml for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Rabbit IgG Secondary Antibody (red; Catalog # NL004) and counterstained with DAPI (blue). Specific staining was localized to the cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Immunohistochemistry



Detection of Neuronostatin in Human Pancreas. Neuronostatin was detected in immersion fixed paraffin-embedded sections of human pancreas using Rabbit Anti-Human Neuronostatin Monoclonal Antibody (Catalog # MAB11554) at 3 µg/ml for 1 hour at room temperature followed by incubation with the Anti-Rabbit IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC003) or the HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to the cytoplasm of islet cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Simple Western



Detection of Neuronostatin by Simple Western™. Simple Western shows lysates of Neuronostatin Peptide SML0354, loaded at 200 ng/ml. Specific bands were detected for Neuronostatin at approximately 2-4 kDa (as indicated) using 20 µg/mL of Rabbit Anti-Human Neuronostatin Monoclonal Antibody (Catalog # MAB11554). This experiment was conducted under reducing conditions and using the 2-40 kDa separation system.

PREPARATION AND STORAGE

Reconstitution	Reconstitute lyophilized material at 0.2 mg/mL in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Neuronostatin is a 13-amino acid bioactive peptide hormone encoded by the somatostatin gene. Neuronostatin has a widespread effect in the CNS and peripheral tissues. It reduces food and water intake, increases mean arterial pressure, delays gastrointestinal transit, and increases glucagon secretion from pancreatic islet alpha cells among other things. Neuronostatin is produced in the endocrine pancreas, specifically pancreatic beta cells. The amounts of immunoreactive neuronostatin are highest in spleen, pancreas, cerebrum, and hypothalamus but is also found in diverse tissues including the heart.

References:

1. Yang S, Zhao X, Du Y, Yu P. Emerging functions of neuronostatin in physiology, pathology, and potential therapeutics. Neuropeptides. 2022 Aug;94:102257. doi: 10.1016/j.npep.2022.102257. Epub 2022 May 20. PMID: 35660860.
2. Wei D, Sun Y. Krążek M, Ligęza A, Wojciechowicz T, Skrzypski M. Biologiczna rola neuronostatyny, hormonu kodowanego przez gen somatostatyny [The biological role of neuronostatin, a hormone encoded by the somatostatin gene]. Postepy Biochem. 2023 Jun 5;69(2):89-95. Polish. doi: 10.18388/pb.2021_476. PMID: 37493559.
3. Salvatori AS, Elrick MM, Samson WK, Corbett JA, Yosten GL. Neuronostatin inhibits glucose-stimulated insulin secretion via direct action on the pancreatic α-cell. Am J Physiol Endocrinol Metab. 2014 Jun 1;306(11):E1257-63. doi: 10.1152/ajpendo.00599.2013. Epub 2014 Apr 15. PMID: 24735892; PMCID: PMC4042099.
4. Vainio L, Perjes A, Ryti N, Magga J, Alakoski T, Serpi R, Kaikkonen L, Piuhola J, Szokodi I, Ruskoaho H, Kerkelä R. Neuronostatin, a novel peptide encoded by somatostatin gene, regulates cardiac contractile function and cardiomyocyte survival. J Biol Chem. 2012 Feb 10;287(7):4572-80. doi: 10.1074/jbc.M111.289215. Epub 2011 Dec 14. PMID: 22170057; PMCID: PMC3281621.

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