

Amylin (R10/99): sc-57026

BACKGROUND

Adrenomedullin (AM), α - and β -calcitonin gene-related peptide (CGRP), calcitonin (CT) and Amylin are homologous polypeptides with overlapping biological actions, such as vasodilatation and inhibition of bone resorption. Amylin (islet/insulinoma amyloid polypeptide or IAPP) is a 37 amino acid monomeric polypeptide isolated from pancreatic amyloid. This protein is a major component of amyloid-rich pancreatic extracts of type 2 diabetic patients. Amylin has cysteine residues in positions 2 and 7, a feature found in all known calcitonin gene-related peptides, and shows 46% amino acid sequence homology with CGRP II. Demonstrated immunochemically in normal beta cells of several mammals, Amylin likely plays an important role in pancreatic islet function. The gene that encodes Amylin maps to human chromosome 12p12.1.

REFERENCES

- Cooper, G.J., et al. 1987. Purification and characterization of a peptide from Amyloid-rich pancreases of type 2 diabetic patients. *Proc. Natl. Acad. Sci. USA* 84: 8628-8632.
- Hoovers, J.M., et al. 1993. High-resolution chromosomal localization of the human calcitonin/CGRP/IAPP gene family members. *Genomics* 15: 525-529.
- Born, W., et al. 2002. Functional interaction of G protein-coupled receptors of the adrenomedullin peptide family with accessory receptor-activity-modifying proteins (RAMP). *Microsc. Res. Tech.* 57: 14-22.
- Tomita, T. 2003. Amylin in human pancreatic islets. *Pathology* 35: 34-36.
- Zhang, S., et al. 2003. Fibrillogenic Amylin evokes islet β cell apoptosis through linked activation of a caspase cascade and JNK1. *J. Biol. Chem.* 278: 52810-52819.
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- Barth, S.W., et al. 2004. Peripheral Amylin activates circumventricular organs expressing calcitonin receptor α/β subtypes and receptor-activity modifying proteins in the rat. *Brain Res.* 997: 97-102.
- Dacquin, R., et al. 2004. Amylin inhibits bone resorption while the calcitonin receptor controls bone formation *in vivo*. *J. Cell Biol.* 164: 509-514.

CHROMOSOMAL LOCATION

Genetic locus: IAPP (human) mapping to 12p12.1; lapp (mouse) mapping to 6 G2.

SOURCE

Amylin (R10/99) is a mouse monoclonal antibody raised against amino acids 40-50 of Amylin of human origin.

PRODUCT

Each vial contains 1.0 ml culture supernatant containing IgG₁ with < 0.1% sodium azide.

APPLICATIONS

Amylin (R10/99) is recommended for detection of Amylin of mouse, rat, human, feline and canine origin by immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200).

Suitable for use as control antibody for Amylin siRNA (h): sc-39275, Amylin siRNA (m): sc-39276, Amylin shRNA Plasmid (h): sc-39275-SH, Amylin shRNA Plasmid (m): sc-39276-SH, Amylin shRNA (h) Lentiviral Particles: sc-39275-V and Amylin shRNA (m) Lentiviral Particles: sc-39276-V.

Molecular Weight of Amylin: 4 kDa.

SELECT PRODUCT CITATIONS

- Calamai, M. and Pavone, F.S. 2011. Single molecule tracking analysis reveals that the surface mobility of amyloid oligomers is driven by their conformational structure. *J. Am. Chem. Soc.* 133: 12001-12008.
- Calamai, M. and Pavone, F.S. 2013. Partitioning and confinement of GM1 ganglioside induced by amyloid aggregates. *FEBS Lett.* 587: 1385-1391.
- Vaith, N.N., et al. 2015. Generation and characterization of novel conformation-specific monoclonal antibodies for α -synuclein pathology. *Neurobiol. Dis.* 79: 81-99.
- Majbour, N.K., et al. 2016. Oligomeric and phosphorylated α -synuclein as potential CSF biomarkers for Parkinson's disease. *Mol. Neurodegener.* 11: 7.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **Amylin (E-5): sc-377530** for Amylin antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647.