SANTA CRUZ BIOTECHNOLOGY, INC.

Amylin (E-5): sc-377530

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 β 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.

CHROMOSOMAL LOCATION

Genetic locus: IAPP (human) mapping to 12p12.1.

SOURCE

Amylin (E-5) is a mouse monoclonal antibody raised against amino acids 40-89 mapping at the C-terminus of Amylin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Amylin (E-5) is available conjugated to agarose (sc-377530 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377530 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377530 PE), fluorescein (sc-377530 FITC), Alexa Fluor® 488 (sc-377530 AF488), Alexa Fluor® 546 (sc-377530 AF546), Alexa Fluor® 594 (sc-377530 AF594) or Alexa Fluor® 647 (sc-377530 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377530 AF680) or Alexa Fluor® 790 (sc-377530 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Amylin (E-5) is recommended for detection of Amylin precursor and active peptide of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

Molecular Weight of Amylin: 4 kDa.

Positive Controls: human Amylin transfected HEK293T whole cell lysate.

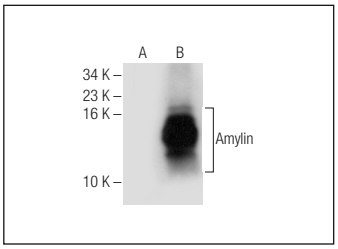
RESEARCH USE

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

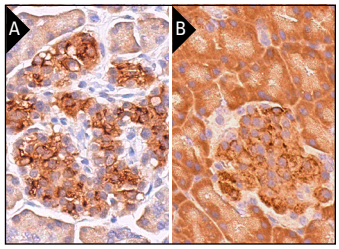
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Amylin (E-5): sc-377530. Western blot analysis of Amylin expression in non-transfected (**A**) and human Amylin transfected (**B**) HEK293T whole cell lysates.



Amylin (E-5): sc-377530. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue (**A**) and rat pancreas tissue (**B**) showing cytoplasmic staining of exocrine glandular cells and cytoplasmic and membrane staining of Islets of Langerhans.

SELECT PRODUCT CITATIONS

1. Srodulski, S., et al. 2014. Neuroinflammation and neurologic deficits in diabetes linked to brain accumulation of Amylin. Mol. Neurodegener. 9: 30.
2. Verma, N., et al. 2016. Intraneuronal Amylin deposition, peroxidative membrane injury and increased IL-1β synthesis in brains of Alzheimer's disease patients with type-2 diabetes and in diabetic HIP rats. J. Alzheimers Dis. 53: 259-272.
3. Liu, M., et al. 2016. Hyperamylinemia increases IL-1β synthesis in the heart via peroxidative sarcolemmal injury. Diabetes 65: 2772-2783.
4. Ly, H., et al. 2017. Brain microvascular injury and white matter disease provoked by diabetes-associated hyperamylinemia. Ann. Neurol. 82: 208-222.
5. Chatterjee Bhowmick, D. and Jeremic, A. 2018. Functional proteasome complex is required for turnover of islet amyloid polypeptide in pancreatic β-cells. J. Biol. Chem. 293: 14210-14223.
6. Liu, M., et al. 2018. Amylin and diabetic cardiomyopathy-Amylin-induced sarcolemmal Ca^{2+} leak is independent of diabetic remodeling of myocardium. Biochim. Biophys. Acta Mol. Basis Dis. 1864: 1923-1930.
7. Singh, S., et al. 2018. Apoptosis signal regulating kinase-1 and NADPH oxidase mediate human Amylin evoked redox stress and apoptosis in pancreatic β-cells. Biochim. Biophys. Acta Biomembr. 6 pii: S0005-2736(18)30104-4.
8. Zou, X., et al. 2019. Preparation of a new type 2 diabetic miniature pig model via the CRISPR/Cas9 system. Cell Death Dis. 10: 823.

PROTOCOLS

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