

# Amylin (E-5): sc-377530

## BACKGROUND

Adrenomedullin (AM),  $\alpha$ - and  $\beta$ -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.

## 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  $\mu$ g IgG<sub>2a</sub> 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  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377530 HRP), 200  $\mu$ g/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  $\mu$ g/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  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## 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  $\mu$ g per 100-500  $\mu$ g 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.

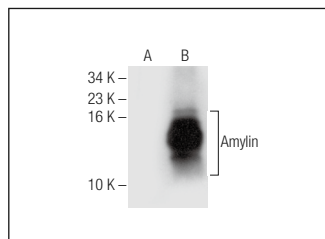
## RESEARCH USE

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

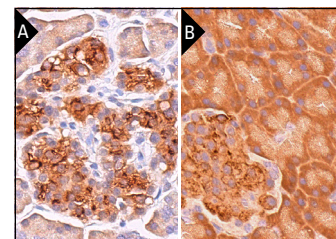
## STORAGE

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. Guan, H., et al. 2015. The mitochondrial peptidase pitrilysin degrades islet amyloid polypeptide in  $\beta$ -cells. *PLoS ONE* 10: e0133263.
3. Liu, M., et al. 2016. Hyperamylinemia increases IL-1 $\beta$  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  $\beta$ -cells. *J. Biol. Chem.* 293: 14210-14223.
6. 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.
7. Chatterjee Bhowmick, D., et al. 2021. FoxA2 and RNA Pol II mediate human islet amyloid polypeptide turnover in ER-stressed pancreatic  $\beta$ -cells. *Biochem. J.* 478: 1261-1282.
8. Bortoletto, A.S., et al. 2022. Human islet amyloid polypeptide (hIAPP) protofibril-specific antibodies for detection and treatment of type 2 diabetes. *Adv. Sci.* 9: e2202342.
9. Verma, N., et al. 2023. A $\beta$  efflux impairment and inflammation linked to cerebrovascular accumulation of Amyloid-forming amylin secreted from pancreas. *Commun. Biol.* 6: 2.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.