

Apelin (2A1-2D5): sc-293441



The Power to Question

BACKGROUND

Apelin (APEL), an endogenous ligand for APJ, is an alternate coreceptor with CD4 for HIV-1 infection. This secreted protein inhibits HIV-1 entry into cells that coexpress APJ and CD4. By proteolytic processing of the peptide precursor, several different active peptides may be produced. Apelin-36, one such inotropic peptide, is being investigated as a potential plasma marker of cardiopulmonary disease. Apelin is highly expressed in brain, mainly in the thalamus, frontal cortex, hypothalamus and midbrain. Apelin is also secreted by the mammary gland into the colostrum and milk. Oral intake of Apelin (in milk and colostrum) may be important in the modulation of the immune responses in neonates and newborns. Apelin has also been found to be a potent stimulator of cardiac contractility and may function in the regulation of the cardiovascular system.

REFERENCES

1. Tatemoto, K., et al. 1998. Isolation and characterization of a novel endogenous peptide ligand for the human APJ receptor. *Biochem. Biophys. Res. Commun.* 251: 471-476.
2. Habata, Y., et al. 1999. Apelin, the natural ligand of the orphan receptor APJ, is abundantly secreted in the colostrum. *Biochim. Biophys. Acta* 1452: 25-35.

CHROMOSOMAL LOCATION

Genetic locus: APLN (human) mapping to Xq26.1.

SOURCE

Apelin (2A1-2D5) is a mouse monoclonal antibody raised against amino acids 1-122 representing full length Apelin of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Apelin (2A1-2D5) is recommended for detection of Apelin of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Apelin siRNA (h): sc-44741, Apelin shRNA Plasmid (h): sc-44741-SH and Apelin shRNA (h) Lentiviral Particles: sc-44741-V.

Molecular Weight of Apelin monomer: 8 kDa.

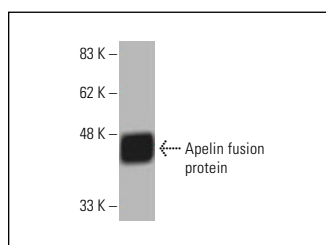
Molecular Weight of Apelin dimer: 16 kDa.

Positive Controls: human breast extract: sc-363753.

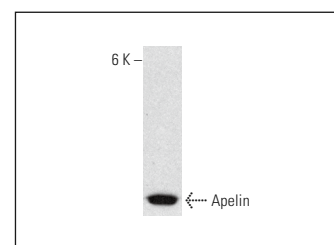
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Apelin (2A1-2D5): sc-293441. Western blot analysis of human recombinant Apelin fusion protein.



Apelin (2A1-2D5): sc-293441. Western blot analysis of Apelin expression in human breast tissue extract.

SELECT PRODUCT CITATIONS

1. Vaughan, O.R., et al. 2019. Apelin is a novel regulator of human trophoblast amino acid transport. *Am. J. Physiol. Endocrinol. Metab.* 316: E810-E816.
2. Mlyczynska, E., et al. 2020. Apelin and Apelin receptor in human placenta: expression, signalling pathway and regulation of trophoblast JEG-3 and BeWo cells proliferation and cell cycle. *Int. J. Mol. Med.* 45: 691-702.
3. Son, J.S., et al. 2020. Maternal exercise via exerkine Apelin enhances brown adipogenesis and prevents metabolic dysfunction in offspring mice. *Sci. Adv.* 6: eaaz0359.
4. Brzoskwinia, M., et al. 2020. Flutamide alters the expression of chemerin, Apelin, and vaspin and their respective receptors in the testes of adult rats. *Int. J. Mol. Sci.* 21: 4439.
5. Barbe, A., et al. 2020. Adipokines expression profiles in both plasma and peri renal adipose tissue in Large White and Meishan sows: a possible involvement in the fattening and the onset of puberty. *Gen. Comp. Endocrinol.* 299: 113584.
6. Wang, Y., et al. 2022. Value of immunohistochemical expression of Apelin, succinate dehydrogenase B, chromogranin B, human epidermal growth factor receptor-2, contactin 4, and succinyl-CoA synthetase subunit β in differentiating metastatic from non-metastatic pheochromocytoma and paraganglioma. *Front. Endocrinol.* 13: 882906.
7. Kisieleska, K., et al. 2024. Expression of the Apelin system in the porcine pituitary during the oestrous cycle and early pregnancy and the effect of Apelin on LH and FSH secretion. *Theriogenology* 230: 263-277.

RESEARCH USE

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