SANTA CRUZ BIOTECHNOLOGY, INC.

ET-1 (C7): sc-517436

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The human endothelins represent a gene family comprised of endothelin-1, endothelin-2, and endothelin-3, also known as ET-1, ET-2, and ET-3. Endothelins can affect the central nervous system and neuronal excitability, and they elicit potent vasoconstrictor action. The two receptor subtypes responsible for inducing vasoconstriction and vasodilation, ETA and ETB, have different receptor affinities for ET-1, ET-2, and ET-3. Of the three isopeptides, ET-2 has the most potent vasoconstrictor activity. Biologically active ETs are proteolytically generated from a larger precursor, the big-endothelin, by action of the endothelin-converting enzyme (ECE) family. ET-1 is a potent, 21-amino acid vasoconstrictor peptide produced by vascular endothelial cells. The ET-2 cDNA is 1.3 kb in length and encodes a proprotein consisting of 178 amino acid residues. ET3 mRNA encodes a 230-amino acid precursor that includes ET3 and a 15-amino acid homologous segment called the ET3-like sequence.

REFERENCES

1. Itoh, Y., et al. 1988. Cloning and sequence analysis of cDNA encoding the precursor of a human endothelium-derived vasoconstrictor peptide, endothelin: identity of human and porcine endothelin. FEBS Lett. 231: 440-444.
2. Masaki, T. 1989. The discovery, the present state, and the future prospects of endothelin. J. Cardiovasc. Pharmacol. 13: S1-S4.

CHROMOSOMAL LOCATION

Genetic locus: EDN1 (human) mapping to 6p24.1.

SOURCE

ET-1 (C7) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 53-90 of ET-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and 1% glycerol.

APPLICATIONS

ET-1 (C7) is recommended for detection of ET-1 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)], 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 ET-1 siRNA (h): sc-45394, ET-1 shRNA Plasmid (h): sc-45394-SH and ET-1 shRNA (h) Lentiviral Particles: sc-45394-V.

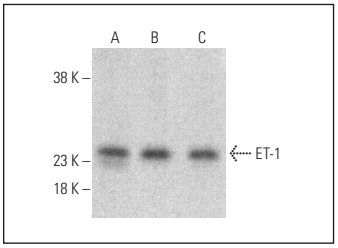
Molecular Weight of ET-1: 24 kDa.

Positive Controls: Saos-2 cell lysate: sc-2235, HUV-EC-C whole cell lysate: sc-364180 or human breast extract: sc-363753.

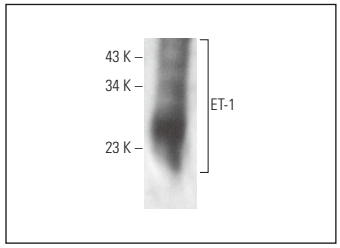
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ET-1 (C7): sc-517436. Western blot analysis of ET-1 expression in HUV-EC-C (**A**), Saos-2 (**B**) and HEK293T (**C**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



ET-1 (C7): sc-517436. Western blot analysis of ET-1 expression in human breast tissue extract.

SELECT PRODUCT CITATIONS

1. Tao, L., et al. 2018. All-*trans* retinoic acid reduces endothelin-1 expression and increases endothelial nitric oxide synthase phosphorylation in rabbits with atherosclerosis. Mol. Med. Rep. 17: 2619-2625.
2. Chen, J., et al. 2020. Mechanism analysis of a novel ACE-inhibitory peptide from *Isochrysis zhanjiangensis* microalgae for suppressing vascular injury in HUVEC. J. Agric. Food Chem. 68: 4411-4423.
3. Torres, M.J., et al. 2021. Endothelin-1 induces changes in the expression levels of steroidogenic enzymes and increases androgen receptor and testosterone production in the PC3 prostate cancer cell line. Oncol. Rep. 46: 171.

STORAGE

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

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.