SANTA CRUZ BIOTECHNOLOGY, INC.

POEM (G-1): sc-393033

BACKGROUND

POEM, also known as Nephronectin or EGFL6L, is a 565 amino acid member of the nephronectin family that contains five EGF-like domains and an Arg-Gly-Asp (RGD) cell binding motif, as well as a meprin, A5 protein and receptor protein-tyrosine phosphatase μ (MAM) domain. Expressed in kidney, thyroid and parathyroid glands, developing bone, tooth germ, skeletal and smooth muscle, brain and skin, POEM is involved in the development and function of bone, muscle and kidney tissue. The most established function of POEM is as a ligand to the receptor Integrin α8/β1. Highly expressed in the nephritic cord, Integrin α8/β1 plays a critical role in kidney morphogenesis and development. The POEM-Integrin α8β1 complex regulates the expression of GDNF, another protein that affects kidney development, specifically by regulating the growth of the uretic bud. There are two named isoforms of POEM, both of which form homodimers or homotrimers.

REFERENCES

1. Müller, U., et al. 1997. Integrin α8/β1 is critically important for epithelial-mesenchymal interactions during kidney morphogenesis. Cell 88: 603-613.
2. Morimura, N., et al. 2001. Molecular cloning of POEM: a novel adhesion molecule that interacts with α8/β1 Integrin. J. Biol. Chem. 276: 42172-42181.
3. Miner, J.H. 2001. Mystery solved: discovery of a novel integrin ligand in the developing kidney. J. Cell Biol. 154: 257-259.
4. Brandenberger, R., et al. 2001. Identification and characterization of a novel extracellular matrix protein nephronectin that is associated with integrin α8β1 in the embryonic kidney. J. Cell Biol. 154: 447-458.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610306. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: NPNT (human) mapping to 4q24; Npnt (mouse) mapping to 3 G3.

SOURCE

POEM (G-1) is a mouse monoclonal antibody raised against amino acids 336-565 mapping at the C-terminus of POEM of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

POEM (G-1) is available conjugated to agarose (sc-393033 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393033 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393033 PE), fluorescein (sc-393033 FITC), Alexa Fluor® 488 (sc-393033 AF488), Alexa Fluor® 546 (sc-393033 AF546), Alexa Fluor® 594 (sc-393033 AF594) or Alexa Fluor® 647 (sc-393033 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393033 AF680) or Alexa Fluor® 790 (sc-393033 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

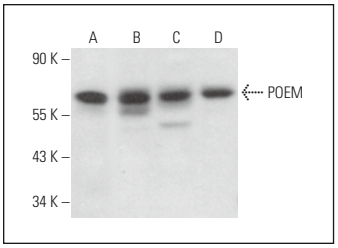
POEM (G-1) is recommended for detection of POEM isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for POEM siRNA (h): sc-88967, POEM siRNA (m): sc-152365, POEM shRNA Plasmid (h): sc-88967-SH, POEM shRNA Plasmid (m): sc-152365-SH, POEM shRNA (h) Lentiviral Particles: sc-88967-V and POEM shRNA (m) Lentiviral Particles: sc-152365-V.

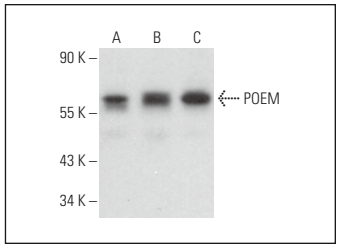
Molecular Weight of POEM: 70-90 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

DATA



POEM (G-1): sc-393033. Western blot analysis of POEM expression in WI-38 (**A**), Hep G2 (**B**), NIH/3T3 (**C**) and AMJ2-C8 (**D**) whole cell lysates.



POEM (G-1): sc-393033. Western blot analysis of POEM expression in MCF7 (**A**), T-47D (**B**) and HeLa (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Dai, L., et al. 2021. A biallelic frameshift mutation in nephronectin causes bilateral renal agenesis in humans. J. Am. Soc. Nephrol. 32: 1871-1879.
2. Müller-Deile, J., et al. 2021. Glomerular endothelial cell-derived microRNA-192 regulates nephronectin expression in idiopathic membranous glomerulonephritis. J. Am. Soc. Nephrol. 32: 2777-2794.
3. Sopel, N., et al. 2022. A tight control of non-canonical TGF-β pathways and microRNAs downregulates nephronectin in podocytes. Cells 11: 149.
4. Yin, J., et al. 2022. A missing piece of the puzzle in pulmonary fibrosis: anoikis resistance promotes fibroblast activation. Cell Biosci. 12: 21.
5. Wu, Z., et al. 2023. m^6A epitranscriptomic regulation of tissue homeostasis during primate aging. Nat. Aging 3: 705-721.

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.