

POEM (N-12): sc-132042

BACKGROUND

POEM, also known as nephronectin or EGFL6L, is a 565 amino acid member of the nephronectin family that contains 5 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 $\alpha 8/\beta 1$. Highly expressed in the nephritic cord, Integrin $\alpha 8/\beta 1$ plays a critical role in kidney morphogenesis and development. The POEM-Integrin $\alpha 8/\beta 1$ 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

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- Morimura, N., et al. 2001. Molecular cloning of POEM: a novel adhesion molecule that interacts with $\alpha 8/\beta 1$ Integrin. *J. Biol. Chem.* 276: 42172-42181.
- Miner, J.H. 2001. Mystery solved: discovery of a novel integrin ligand in the developing kidney. *J. Cell Biol.* 154: 257-259.
- Brandenberger, R., et al. 2001. Identification and characterization of a novel extracellular matrix protein nephronectin that is associated with Integrin $\alpha 8/\beta 1$ in the embryonic kidney. *J. Cell Biol.* 154: 447-458.
- 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/>
- Huang, J.T., et al. 2005. Identification and characterization of a novel human nephronectin gene in silico. *Int. J. Mol. Med.* 15: 719-724.

CHROMOSOMAL LOCATION

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

SOURCE

POEM (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of POEM of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-132042 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

POEM (N-12) is recommended for detection of POEM isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

POEM (N-12) is also recommended for detection of POEM isoforms 1 and 2 in additional species, including bovine.

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.

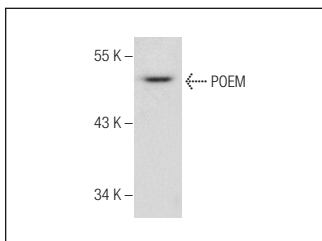
Molecular Weight of POEM: 70-90 kDa.

Positive Controls: human kidney extract: sc-363764.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



POEM (N-12): sc-132042. Western blot analysis of POEM expression in human kidney tissue extract.

RESEARCH USE

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

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Try **POEM (G-1): sc-393033**, our highly recommended monoclonal alternative to POEM (N-12).