

# Prominin 2 (E-14): sc-169037

## BACKGROUND

Prominin 2, also known as PROM-2, hPROML2 (prominin-like protein 2) or prominin-related protein, is an 834 amino acid multi-pass membrane protein belonging to the prominin family of pentaspan membrane glycoproteins. Encoded by a gene that maps to human chromosome 2q11.1, Prominin 2 exists as three alternatively spliced isoforms and shares less than 30% amino acid identity with CD133. However, Prominin 2 displays strikingly similar genomic organization with CD133, which suggests an early gene duplication event. Prominin 2 localizes to basal epithelial cells and co-localizes with CD133. Similar to CD133, Prominin 2 is expressed in kidney, prostate, trachea, esophagus, salivary gland, thyroid gland, mammary gland, adrenal gland, placenta, stomach, spinal cord and liver. Conversely, Prominin 2 is not expressed in eye, which may explain why a loss-of-function mutation in human CD133 is linked to retinal degeneration without other obvious pathological signs. Prominin 2 is also expressed in prostate cancer cell lines, and spindle-shaped or stellate stromal cells in submucosal tumors. Prominin 2 may play a role in the organization of plasma membrane microdomains.

## REFERENCES

1. Yu, Y., et al. 2002. AC133-2, a novel isoform of human AC133 stem cell antigen. *J. Biol. Chem.* 277: 20711-20716.
2. Fargeas, C.A., et al. 2003. Characterization of Prominin-2, a new member of the prominin family of pentaspan membrane glycoproteins. *J. Biol. Chem.* 278: 8586-8596.
3. Fargeas, C.A., et al. 2003. AC133 antigen, CD133, Prominin-1, Prominin-2, etc.: prominin family gene products in need of a rational nomenclature. *Stem Cells* 21: 506-508.
4. Shmelkov, S.V., et al. 2005. AC133/CD133/Prominin-1. *Int. J. Biochem. Cell Biol.* 37: 715-719.
5. Florek, M., et al. 2007. Prominin-2 is a cholesterol-binding protein associated with apical and basolateral plasmalemmal protrusions in polarized epithelial cells and released into urine. *Cell Tissue Res.* 328: 31-47.

## CHROMOSOMAL LOCATION

Genetic locus: PROM2 (human) mapping to 2q11.1; Prom2 (mouse) mapping to 2 F1.

## SOURCE

Prominin 2 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of Prominin 2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-169037 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Prominin 2 (E-14) is recommended for detection of Prominin 2 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Prominin 2 (E-14) is also recommended for detection of Prominin 2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Prominin 2 siRNA (h): sc-94521, Prominin 2 siRNA (m): sc-152480, Prominin 2 shRNA Plasmid (h): sc-94521-SH, Prominin 2 shRNA Plasmid (m): sc-152480-SH, Prominin 2 shRNA (h) Lentiviral Particles: sc-94521-V and Prominin 2 shRNA (m) Lentiviral Particles: sc-152480-V.

Molecular Weight of Prominin 2 isoform 1: 92 kDa.

Molecular Weight of Prominin 2 isoform 2: 86 kDa.

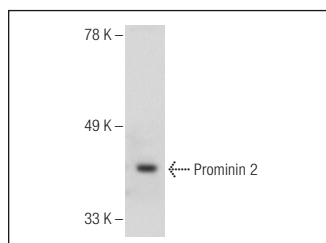
Molecular Weight of Prominin 2 isoform 3: 41 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

## 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



Prominin 2 (E-14): sc-169037. Western blot analysis of Prominin 2 expression in Hep G2 whole cell lysate.

## 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.