



# Pregnancy Zone protein (D-18): sc-12472

## BACKGROUND

Pregnancy Zone protein, also known as PZP or CPAMD6 (C3 and PZP-like  $\alpha_2$ -Macroglobulin domain-containing protein 6), is a 1,482 amino acid secreted protein that belongs to the protease inhibitor I39 family and exists as multiple alternatively spliced isoforms. Expressed predominately in plasma and in late-pregnancy sera, Pregnancy Zone protein functions as a disulfide-linked homotetramer that is able to trap and inhibit proteinases, thus playing a role in the regulation of protein splitting and small peptide formation. The gene encoding Pregnancy Zone protein maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and Trisomy 12p, which causes facial developmental defects and seizure disorders.

## REFERENCES

1. Smithies, O. 1959. Zone electrophoresis in starch gels and its application to studies of serum proteins. *Adv. Protein Chem.* 14: 65-113.
2. Sottrup-Jensen, L., et al. 1984. Partial primary structure of human Pregnancy Zone protein: extensive sequence homology with human  $\alpha_2$ -Macroglobulin. *Proc. Natl. Acad. Sci. USA* 81: 7353-7357.
3. Sand, O., et al. 1985. Characterization of human Pregnancy Zone protein. Comparison with human  $\alpha_2$ -Macroglobulin. *J. Biol. Chem.* 260: 15723-15735.
4. Christensson, A., et al. 1990. Enzymatic activity of prostate-specific antigen and its reactions with extracellular serine proteinase inhibitors. *Eur. J. Biochem.* 194: 755-763.
5. Marynen, P., et al. 1990. A genetic polymorphism in a functional domain of human Pregnancy Zone protein: the bait region. Genomic structure of the bait domains of human Pregnancy Zone protein and  $\alpha_2$ -Macroglobulin. *FEBS Lett.* 262: 349-352.
6. Devriendt, K., et al. 1991. Primary structure of Pregnancy Zone protein. Molecular cloning of a full-length PZP cDNA clone by the polymerase chain reaction. *Biochim. Biophys. Acta* 1088: 95-103.
7. Online Mendelian Inheritance in Man, OMIM™. 1992. Johns Hopkins University, Baltimore, MD. MIM Number: 176420. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
8. Philip, A., et al. 1994. Binding of transforming growth factor- $\beta$  (TGF $\beta$ ) to Pregnancy Zone protein (PZP). Comparison to the TGF $\beta$ - $\alpha_2$ -Macroglobulin interaction. *Eur. J. Biochem.* 221: 687-693.
9. Chiabrando, G.A., et al. 2002. Differential binding properties of human Pregnancy Zone protein- and  $\alpha_2$ -Macroglobulin-proteinase complexes to low-density lipoprotein receptor-related protein. *Arch. Biochem. Biophys.* 398: 73-78.

## STORAGE

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

## CHROMOSOMAL LOCATION

Genetic locus: Pzp (mouse) mapping to 6 F3.

## SOURCE

Pregnancy Zone protein (D-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Pregnancy Zone protein of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-12472 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Pregnancy Zone protein (D-18) is recommended for detection of Pregnancy Zone protein of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 Pregnancy Zone protein siRNA (m): sc-76240, Pregnancy Zone protein shRNA Plasmid (m): sc-76240-SH and Pregnancy Zone protein shRNA (m) Lentiviral Particles: sc-76240-V.

Molecular Weight of tetrameric Pregnancy Zone protein: 718 kDa.

Molecular Weight of Pregnancy Zone protein subunits: 185 kDa.

Positive Controls: mouse liver extract: sc-2256 or mouse placenta tissue extract.

## 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) 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.