

# PSMC4 (SQ-K1): sc-100457

## BACKGROUND

In eukaryotic cells, selective breakdown of cellular proteins is ensured by their ubiquitination and subsequent degradation by the 26S Proteasome. At specific stages of development, embryo- and tissue-specific components of the 26S Proteasome are formed, which are responsible for proteolysis. These components of the 26S Proteasome include Rpn10 $\alpha$  through Rpn10 $\epsilon$ , or, alternatively, pUb-R2 through pUb-R5, and can be generated by a single Rpn10 gene by developmentally regulated alternative splicing. Gankyrin and p44S10 are proteasome regulatory particles that are expressed in heart, liver, skeletal muscle and pancreas. Proteasome component C<sub>2</sub> (PROS-30), also designated macropain subunit C<sub>2</sub>, is a prosomal protein involved in a non-lysosomal ATP/ubiquitin-dependent proteolytic pathway. PSMC4 (26S protease regulatory subunit 6B) is involved in the ATP-dependent degradation of ubiquitinated proteins. PSMC4 interacts with gankyrin, a liver oncoprotein, as well as with a liver-specific member of the nuclear hormone receptor superfamily.

## REFERENCES

1. Dubiel, W., et al. 1994. Tat-binding protein 7 is a subunit of the 26S protease. *Biol. Chem. Hoppe-Seyler* 375: 237-240.
2. Tanahashi, N., et al. 1998. Chromosomal localization and immunological analysis of a family of human 26S proteasomal ATPases. *Biochem. Biophys. Res. Commun.* 243: 229-232.
3. Sakao, Y., et al. 2000. Mouse proteasomal ATPases PSMC3 and PSMC4: genomic organization and gene targeting. *Genomics* 67: 1-7.
4. Rhodes, D.R., et al. 2004. Large-scale meta-analysis of cancer microarray data identifies common transcriptional profiles of neoplastic transformation and progression. *Proc. Natl. Acad. Sci. USA* 101: 9309-9314.
5. Szabo, A., et al. 2004. Statistical modeling for selecting housekeeper genes. *Genome Biol.* 5: R59.

## CHROMOSOMAL LOCATION

Genetic locus: PSMC4 (human) mapping to 19q13.2.

## SOURCE

PSMC4 (SQ-K1) is a mouse monoclonal antibody raised against recombinant PSMC4 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## PROTOCOLS

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

## APPLICATIONS

PSMC4 (SQ-K1) is recommended for detection of PSMC4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 PSMC4 siRNA (h): sc-45851, PSMC4 shRNA Plasmid (h): sc-45851-SH and PSMC4 shRNA (h) Lentiviral Particles: sc-45851-V.

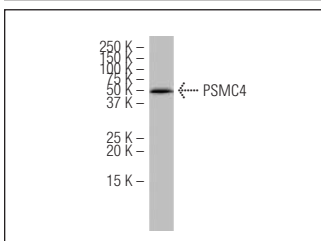
Molecular Weight of PSMC4: 47 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270, HeLa whole cell lysate: sc-2200 or MIA PaCa-2 cell lysate: sc-2285.

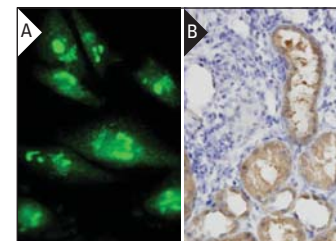
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

## DATA



PSMC4 (SQ-K1): sc-100457. Western blot analysis of PSMC4 expression in HepG2 whole cell lysate.



PSMC4 (SQ-K1): sc-100457. Immunofluorescence staining of paraformaldehyde-fixed HepG2 cells (A) showing nuclear and cytoplasmic localization and immunoperoxidase staining of formalin-fixed, paraffin-embedded human colon tissue (B) showing nuclear and cytoplasmic localization.

## RESEARCH USE

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