**BACKGROUND**

Six-transmembrane epithelial antigen of the prostate (STEAP) is structurally similar to a channel or transport protein. STEAP protein contains six potential membrane-spanning regions with hydrophilic amino- and carboxyl-terminal domains. STEAP protein is present in human prostate tissue with elevated levels in cancer cell lines, including prostate, bladder, colon, ovarian and Ewing sarcoma. Cell-cell junctions of the secretory epithelium show concentrated levels of STEAP protein. Mouse STEAP is 80% homologous to human STEAP at both the nucleotide and amino acid levels. The human STEAP gene maps to chromosome 7q21.13 and encodes a 339 amino acid protein.

**CHROMOSOMAL LOCATION**

Genetic locus: STEAP1 (human) mapping to 7q21.13.

**SOURCE**

STEAP (B-4) is a mouse monoclonal antibody raised against amino acids 1-105 of STEAP of human origin.

**PRODUCT**

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STEAP (B-4) is available conjugated to agarose (sc-271872 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271872 HRP), 200 µg/ml, for WB, IHCP and ELISA; to either phycoerythrin (sc-271872 PE), fluorescein (sc-271872 FITC), Alexa Fluor® 488 (sc-271872 AF488), Alexa Fluor® 546 (sc-271872 AF546), Alexa Fluor® 594 (sc-271872 AF594) or Alexa Fluor® 647 (sc-271872 AF647), 200 µg/ml, for WB (RGB), IF, IHCP and FCM; and to either Alexa Fluor® 680 (sc-271872 AF680) or Alexa Fluor® 790 (sc-271872 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA.

**STORAGE**

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

**APPLICATIONS**

STEAP (B-4) is recommended for detection of STEAP of 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 STEAP shRNA (h): sc-36571, STEAP shRNA Plasmid (h): sc-36571-SH and STEAP shRNA (h) Lentiviral Particles: sc-36571-V.

Molecular Weight of STEAP: 36 kDa.

Positive Controls: LNCaP cell lysate: sc-2231 or A-431 whole cell lysate: sc-2201.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG BP-HRP or m-IgG BP-HRP (Cruz Marker); sc-516102 or m-IgG BP-HRP (Cruz Marker); sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG BP-FITC: sc-516140 or m-IgG BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

**DATA**

STEAP (B-4): sc-271872. Western blot analysis of STEAP expression in LNCaP whole cell lysate.

STEAP (B-4) Alexa Fluor® 647: sc-271872 AF647. Direct fluorometric western blot analysis of STEAP expression in LNCaP whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker™ MW Tag Alexa Fluor® 488: sc-516790.

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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

**PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.