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STEAP1 Antibody

Catalog # ASC10571

Product Information

Application	WB, E, IHC-P
Primary Accession	Q9UHE8
Other Accession	EAL24166, 51094921
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	39851
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	STEAP1 antibody can be used for detection of STEAP1 by Western blot at 1 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL.

Additional Information

Gene ID	26872
Other Names	Metalloreductase STEAP1, 1.16.1.-, Six-transmembrane epithelial antigen of prostate 1, STEAP1, PRSS24, STEAP
Target/Specificity	STEAP1; This STEAP1 antibody does not cross-react with other STEAP proteins.
Reconstitution & Storage	STEAP1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	STEAP1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	STEAP1
Synonyms	PRSS24, STEAP
Function	Does not function as a metalloreductase due to the absence of binding sites for the electron-donating substrate NADPH. Promotes Fe(3+) reduction when fused to the NADPH-binding domain of STEAP4.
Cellular Location	Endosome membrane {ECO:0000250|UniProtKB:Q9CWR7}; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein

Tissue Location	Ubiquitously expressed. Highly expressed in prostate tumors.

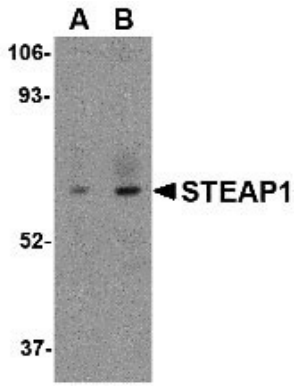
Background

STEAP1 Antibody: The six-transmembrane epithelial antigen of prostate 1 (STEAP1) was the first member of a family of metalloreductases identified as cell-surface antigens in prostate tissue. The normal function of STEAP is still uncertain; unlike other members of the STEAP family, STEAP1 does not promote iron or copper reduction or uptake and lacks the FNO-like reductase domain critical for activity. However, its expression is highly increased in multiple cancer cell lines, including prostate, bladder, colon, and ovarian cancers. Supporting this is evidence that STEAP1 peptides can be used to stimulate CD8+ T cells from healthy donors, enabling them to recognize STEAP1-positive human tumor cells, suggesting that STEAP1 may a potential target for cancer immunotherapy. At least three isoforms of STEAP1 are known to exist.

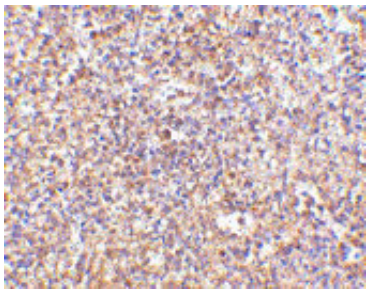
References

Hubert RS, Vivanco I, Chen E, et al. STEAP: a prostate-specific cell-surface antigen highly expressed in human prostate tumors. Proc. Natl. Acad. Sci. USA1999; 96:14523-8.
Ohgami RS, Campagna DR, McDonald A, et al. The Steap proteins are metalloreductases. Blood2006; 108:1388-94.
Ohgami RS, Campagna DR, Greer EL, et al. Identification of a ferrireductase required for efficient transferrin-dependent iron uptake in erythroid cells. Nat. Genet.2005; 37:1264-9.
Alves PM, Faure O, Graff-Dubois S, et al. STEAP, a prostate tumor antigen, is a target of human CD8+ T cells. Cancer Immunol. Immunother.2006; 55:1515-23.

Images



Western blot analysis of STEAP1 in human spleen tissue lysate with STEAP1 antibody at (A) 1 and (B) 2 µg/mL.



Immunohistochemistry of STEAP1 in human spleen tissue with STEAP1 antibody at 2.5 µg/mL.