

UPIIIa (F-20): sc-15185

BACKGROUND

The asymmetric unit membrane (AUM) forms numerous plaques, which cover the apical surface of the urothelium. These plaques are thought to strengthen the urothelium and reduce the risk of rupturing during ladder distention. They are composed of four major integral membrane proteins called uroplakins (UP). The uroplakin family comprises UPIa, UPIb, UPII, and UPIII. Family members are conserved among several species, including human, mouse, rat, rabbit, canine, porcine and ovine. UPIa and UPIb form tightly packed structures with UPII and UPIII, respectively. This pairing is required for normal urothelial plaque formation and is regulated by proteolytic processing of the uroplakin proteins. Uroplakins are expressed in normal urothelium and are used as specific markers of urothelial differentiation. They are also expressed in a majority of transitional cell carcinomas of the bladder (TCCs), which make the uroplakins a useful marker for detecting bladder cancer metastasis and for staging and monitoring chemotherapeutic response.

REFERENCES

- Lin, J.H., et al. 1994. Precursor sequence, processing, and urothelium-specific expression of a major 15 kDa protein subunit of asymmetric unit membrane. *J. Biol. Chem.* 269: 1775-1784.
- Wu, X.R., et al. 1994. Mammalian uroplakins. A group of highly conserved urothelial differentiation-related membrane proteins. *J. Biol. Chem.* 269: 13716-13724.
- Wu, X.R., et al. 1995. Selective interactions of UPIa and UPIb, two members of the transmembrane 4 superfamily, with distinct single transmembrane-domained proteins in differentiated urothelial cells. *J. Biol. Chem.* 270: 29752-29759.
- Li, S.M., et al. 1999. Detection of circulating uroplakin-positive cells in patients with transitional cell carcinoma of the bladder. *J. Urol.* 162: 931-935.
- Shapiro, E., et al. 2000. Uroplakin and androgen receptor expression in the human fetal genital tract: insights into the development of the vagina. *J. Urol.* 164: 1048-1051.
- Hu, P., et al. 2000. Ablation of uroplakin III gene results in small urothelial plaques, urothelial leakage, and vesicoureteral reflux. *J. Cell Biol.* 151: 961-972.

CHROMOSOMAL LOCATION

Genetic locus: Upk3a (mouse) mapping to 15 E2.

SOURCE

UPIIIa (F-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of UPIIIa (uroplakin III) of mouse 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-15185 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

UPIIIa (F-20) is recommended for detection of UPIIIa of mouse and rat 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).

Suitable for use as control antibody for UPIIIa siRNA (m): sc-41097, UPIIIa shRNA Plasmid (m): sc-41097-SH and UPIIIa shRNA (m) Lentiviral Particles: sc-41097-V.

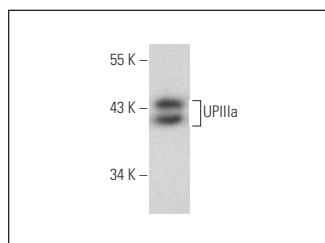
Molecular Weight of UPIIIa: 47 kDa.

Positive Controls: mouse bladder extract: sc-364919.

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



UPIIIa (F-20): sc-15185. Western blot analysis of UPIIIa expression in mouse bladder tissue extract.

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.

PROTOCOLS

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