

UPIIIa (h): 293T Lysate: sc-158053

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 bladder 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, dog, pig and sheep. 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

1. 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.
2. Wu, X.R., et al. 1994. Mammalian uroplakins. A group of highly conserved urothelial differentiation-related membrane proteins. *J. Biol. Chem.* 269: 13716-13724.
3. 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.
4. 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.
5. 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.
6. 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 (human) mapping to 22q13.31.

PRODUCT

UPIIIa (h): 293T Lysate represents a lysate of human UPIIIa transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

UPIIIa (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive UPIIIa antibodies.

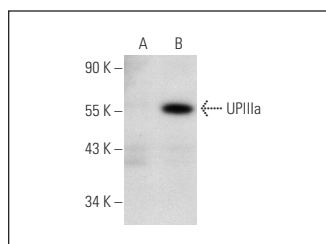
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

UPIIIa (F-11): sc-166598 is recommended as a positive control antibody for Western Blot analysis of enhanced human UPIIIa expression in UPIIIa transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

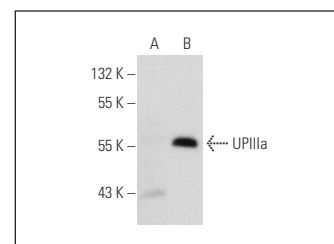
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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.

DATA



UPIIIa (F-11): sc-166598. Western blot analysis of UPIIIa expression in non-transfected: sc-117752 (A) and human UPIIIa transfected: sc-158053 (B) 293T whole cell lysates.



UPIIIa (C-6): sc-166808. Western blot analysis of UPIIIa expression in non-transfected: sc-117752 (A) and human UPIIIa transfected: sc-158053 (B) 293T whole cell lysates.

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.