SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 6 (B-7): sc-514520

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins (IFPs) that are expressed as pairs in both keratinized and non-keratinized epithelial tissue, where they constitute up to 85% of mature keratinocytes in the vertebrate epidermis. Cytokeratins play a critical role in differentiation and tissue specialization and function to maintain the overall structural integrity of epithelial cells. The α-helical coiled-coil dimers associate laterally end-to-end to form 10 nm diameter filaments. Cytokeratins, which are useful markers of tissue differentiation, also aid in the characterization of malignant tumors. IL-1 and TNFα induce transcription of Cytokeratin 6 in epidermal keratinocytes via the C/EBP β transcription factor. In humans, multiple isoforms of Cytokeratin 6 (6A-6F), encoded by several highly homologous genes, have distinct tissue expression patterns, and Cytokeratin 6A is the dominant form in epithelial tissue. The gene encoding human Cytokeratin 6A maps to chromosome 12q13.13, and mutations in this gene are linked to several inheritable hair and skin pathologies.

REFERENCES

1. Rosenberg, M., et al. 1991. Three epidermal and one simple epithelial type II Keratin genes map to human chromosome 12. Cytogenet. Cell Genet. 57: 33-38.
2. van der Velden, L.A., et al. 1993. Cytokeratin expression in normal and (pre) malignant head and neck epithelia: an overview. Head Neck 15: 133-146.
3. Takahashi, K., et al. 1995. Cloning and characterization of multiple human genes and cDNAs encoding highly related type II Keratin 6 isoforms. J. Biol. Chem. 270: 18581-18592.

CHROMOSOMAL LOCATION

Genetic locus: KRT6A/KRT6B/KRT6C (human) mapping to 12q13.13.

SOURCE

Cytokeratin 6 (B-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 19-34 near the N-terminus of Cytokeratin 6 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cytokeratin 6 (B-7) is available conjugated to agarose (sc-514520 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514520 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514520 PE), fluorescein (sc-514520 FITC), Alexa Fluor® 488 (sc-514520 AF488), Alexa Fluor® 546 (sc-514520 AF546), Alexa Fluor® 594 (sc-514520 AF594) or Alexa Fluor® 647 (sc-514520 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514520 AF680) or Alexa Fluor® 790 (sc-514520 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514520 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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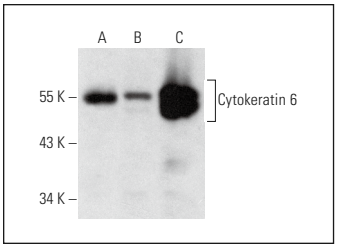
APPLICATIONS

Cytokeratin 6 (B-7) is recommended for detection of Cytokeratin 6A, Cytokeratin 6B, Cytokeratin 6C and Cytokeratin 6F 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), 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).

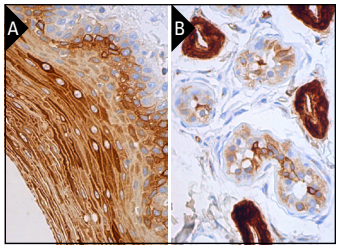
Molecular Weight of Cytokeratin 6: 56 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, SCC-4 whole cell lysate: sc-364363 or MCF7 whole cell lysate: sc-2206.

DATA



Cytokeratin 6 (B-7): sc-514520. Western blot analysis of Cytokeratin 6 expression in SCC-4 (**A**), MCF7 (**B**) and A-431 (**C**) whole cell lysates.



Cytokeratin 6 (B-7): sc-514520. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human sweat gland tissue showing cytoplasmic and nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Tancharoen, S., et al. 2015. Cleavage of host Cytokeratin-6 by lysine-specific gingipain induces gingival inflammation in periodontitis patients. PLoS ONE 10: e0117775.
2. Mehus, A.A., et al. 2020. Activation of PPARγ and inhibition of cell proliferation reduces key proteins associated with the basal subtype of bladder cancer in As^{3+}-transformed UROtsa cells. PLoS ONE 15: e0237976.
3. Aguiar, A., et al. 2021. Human cytomegalovirus replication and infection-induced syncytia formation in labial, foreskin, and fetal lung fibroblasts. Viruses 13: 2355.

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 for detailed protocols and support products.