SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 5 (AE14): sc-80606

BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins (IFPs) that are expressed as pairs in both keratinized and non-keratinized epithelial tissue. Cytokeratins play a critical role in differentiation and tissue specialization and function to maintain the overall structural integrity of epithelial cells. Cytokeratins have been found to be useful markers of tissue differentiation which is directly applicable to the characterization of malignant tumors. Cytokeratin 5 is expressed in normal basal cells. Mutations of the Cytokeratin 5 gene (KRT5) have been shown to result in the autosomal dominant disorder epidermolysis bullosa (EB).

REFERENCES

1. 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.
2. Silen, A., et al. 1994. Evaluation of a new tumor marker for Cytokeratin 8 and 18 fragments in healthy individuals and prostate cancer patients. Prostate 24: 326-332.
3. Marceau, N., et al. 1995. Cytokeratin expression, fibrillar organization and subtle function in liver cells. Biochem. Cell Biol. 73: 619-625.

CHROMOSOMAL LOCATION

Genetic locus: KRT5 (human) mapping to 12q13.13.

SOURCE

Cytokeratin 5 (AE14) is a mouse monoclonal antibody raised against hair keratins of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Cytokeratin 5 (AE14) is recommended for detection of Cytokeratin 5 of human and bovine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)]; may cross-react with some acidic hair cytokeratins.

Suitable for use as control antibody for Cytokeratin 5 siRNA (h): sc-35153, Cytokeratin 5 shRNA Plasmid (h): sc-35153-SH and Cytokeratin 5 shRNA (h) Lentiviral Particles: sc-35153-V.

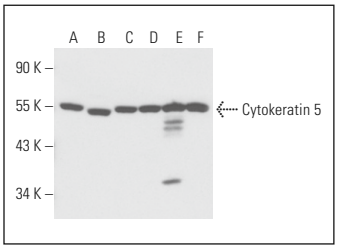
Molecular Weight of Cytokeratin 5: 58 kDa.

Positive Controls: DU 145 cell lysate: sc-2268, HeLa whole cell lysate: sc-2200 or MCF7 whole cell lysate: sc-2206.

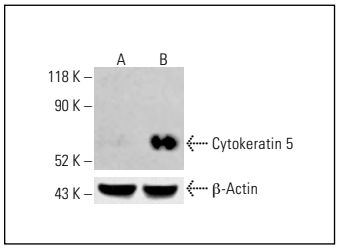
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Cytokeratin 5 (AE14): sc-80606. Western blot analysis of Cytokeratin 5 expression in MCF7 (**A**), T-47D (**B**), HeLa (**C**), DU 145 (**D**), SK-BR-3 (**E**) and ZR-75-1 (**F**) whole cell lysates.



Cytokeratin 5 (AE14): sc-80606. Western blot analysis of Cytokeratin 5 expression in untreated (**A**) and chemically-treated (**B**) K-562 whole cell lysates. β-Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

SELECT PRODUCT CITATIONS

1. Kongsuwan, K., et al. 2010. Activation of several key components of the epidermal differentiation pathway in cattle following infestation with the cattle tick, *Rhipicephalus (Boophilus)* microplus. Int. J. Parasitol. 40: 499-507.
2. Nardone, A., et al. 2011. Long-term cultures of stem/progenitor cells from lobular and ductal breast carcinomas under non-adherent conditions. Cytotechnology 63: 67-80.
3. Leccia, F., et al. 2012. Cytometric and biochemical characterization of human breast cancer cells reveals heterogeneous myoepithelial phenotypes. Cytometry A 81: 960-972.
4. Lara, M.F., et al. 2012. Inhibition of CD44 gene expression in human skin models, using self-delivery short interfering RNA administered by dissolvable microneedle arrays. Hum. Gene Ther. 23: 816-823.
5. Zeng, L.H., et al. 2024. Phosphorylation of human glioma-associated oncogene 1 on Ser937 regulates Sonic Hedgehog signaling in medulloblastoma. Nat. Commun. 15: 987.

RESEARCH USE

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