

Cytokeratin 1 (E-12): sc-376224

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 constitute up to 85% of a mature keratinocytes in the vertebrate epidermis. Cytokeratins play a critical role in differentiation and tissue specialization, and they 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 are useful markers of tissue differentiation, and they aid in the characterization of malignant tumors. Cytokeratin 1 is highly expressed in several malignancies including epithelioid hemangioendotheliomas, angiosarcomas, schwannomas, epithelioid sarcomas and synodal sarcomas. The gene encoding human Cytokeratin 1 maps to chromosome 12q13.13. Mutations in the gene encoding human Cytokeratin 1 lead to abnormal filament associations and epidermolytic hyperkeratosis.

CHROMOSOMAL LOCATION

Genetic locus: KRT1 (human) mapping to 12q13.13.

SOURCE

Cytokeratin 1 (E-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 209-247 within an internal region of Cytokeratin 1 of human origin.

PRODUCT

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

Cytokeratin 1 (E-12) is available conjugated to agarose (sc-376224 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376224 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376224 PE), fluorescein (sc-376224 FITC), Alexa Fluor® 488 (sc-376224 AF488), Alexa Fluor® 546 (sc-376224 AF546), Alexa Fluor® 594 (sc-376224 AF594) or Alexa Fluor® 647 (sc-376224 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376224 AF680) or Alexa Fluor® 790 (sc-376224 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Cytokeratin 1 (E-12) is recommended for detection of Cytokeratin 1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Suitable for use as control antibody for Cytokeratin 1 siRNA (h): sc-43285, Cytokeratin 1 shRNA Plasmid (h): sc-43285-SH and Cytokeratin 1 shRNA (h) Lentiviral Particles: sc-43285-V.

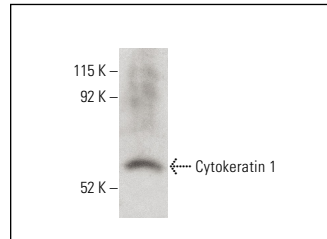
Molecular Weight of Cytokeratin 1: 67 kDa.

Positive Controls: SJRH30 cell lysate: sc-2287 or Caco-2 cell lysate: sc-2262.

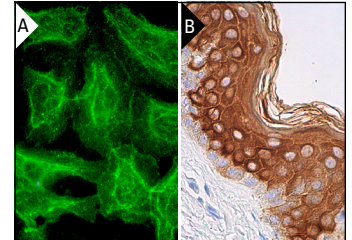
STORAGE

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

DATA



Cytokeratin 1 (E-12) HRP: sc-376224 HRP. Direct western blot analysis of Cytokeratin 1 expression in Caco-2 whole cell lysate.



Cytokeratin 1 (E-12): sc-376224. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytoskeletal localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes, Langerhans cells and melanocytes (B).

SELECT PRODUCT CITATIONS

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- Li, G., et al. 2015. Transcription factor PAX6 (paired box 6) controls limbal stem cell lineage in development and disease. *J. Biol. Chem.* 290: 20448-20454.
- Zhu, H., et al. 2016. MiR-217 is down-regulated in psoriasis and promotes keratinocyte differentiation via targeting GRHL2. *Biochem. Biophys. Res. Commun.* 471: 169-176.
- Jin, R., et al. 2017. Disorder of the mevalonate pathway inhibits calcium-induced differentiation of keratinocytes. *Mol. Med. Rep.* 16: 4811-4816.
- Khan, S., et al. 2018. Preparation and structural characterization of surface modified microporous bacterial cellulose scaffolds: a potential material for skin regeneration applications *in vitro* and *in vivo*. *Int. J. Biol. Macromol.* 117: 1200-1210.
- Kim, E.H., et al. 2020. Self-luminescent photodynamic therapy using breast cancer targeted proteins. *Sci. Adv.* 6: eaba3009.
- Dai, X., et al. 2022. Nuclear IL-33 plays an important role in IL-31-mediated downregulation of FLG, Keratin 1, and Keratin 10 by regulating signal transducer and activator of transcription 3 activation in human keratinocytes. *J. Invest. Dermatol.* 142: 136-144.e3.
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RESEARCH USE

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