Anti-Cytokeratin 14 Antibody [A2C12]

EM1901-31

Product Type:	Mouse monoclonal IgG1, primary antibodies
Species reactivity:	Human
Applications:	WB, IHC-P, FC
Molecular Wt:	Predicted band size: 52 kDa
Clone number:	A2C12

Description: This gene encodes a member of the keratin family, the most diverse group of intermediate filaments. This gene product, a type I keratin, is usually found as a heterotetramer with two keratin 5 molecules, a type II keratin. Together they form the cytoskeleton of epithelial cells. Mutations in the genes for these keratins are associated with epidermolysis bullosa simplex. The nonhelical tail domain is involved in promoting KRT5-KRT14 filaments to self-organize into large bundles and enhances the mechanical properties involved in resilience of keratin intermediate filaments in vitro. Expressed in the corneal epithelium (at protein level). Detected in the basal layer, lowered within the more apically located layers specifically in the stratum spinosum, stratum granulosum but is not detected in stratum corneum. Strongly expressed in the outer root sheath of anagen follicles but not in the germinative matrix, inner root sheath or hair. A form of epidermolysis bullosa simplex, a group of skin fragility disorders characterized by skin blistering due to cleavage within the basal layer of keratinocytes, and erosions caused by minor mechanical trauma. There is a broad spectrum of clinical severity ranging from minor blistering on the feet, to subtypes with extracutaneous involvement and a lethal outcome. EBS1A is an autosomal dominant form characterized by generalized intraepidermal skin blistering that begins and is very prominent at birth. EBS1A may be life-threatening in the first year of life. Tendency to blistering diminishes in adolescence.

Immunogen:	Synthetic peptide within Human Cytokeratin 14 aa 423-472 / 472.
Positive control:	A431 cell lysates, human tonsil tissue, human skin tissue, A431 cells.
Subcellular location:	Cytoplasm, Nucleus.
Database links:	SwissProt: P02533 Human
Recommended Dilutions:	
WB	1:500-1:1,000
IHC-P	1:50-1:200
FC	1:50-1:100
Storage Buffer:	1*PBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.
Storage Instruction:	Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.
Purity:	Protein G affinity purified.

Images

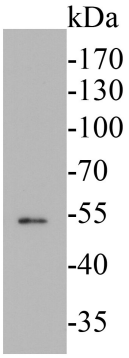

Fig1: Western blot analysis of Cytokeratin 14 on A431 cell lysates. Proteins were transferred to a PVDF membrane and blocked with 5% BSA in PBS for 1 hour at room temperature. The primary antibody (EM1901-31, 1/500) was used in 5% BSA at room temperature for 2 hours. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1:5,000 dilution was used for 1 hour at room temperature.

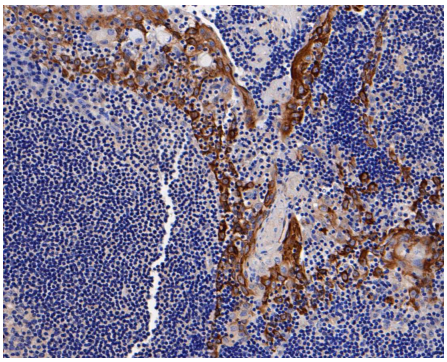

Fig2: Immunohistochemical analysis of paraffin-embedded human tonsil tissue using anti-Cytokeratin 14 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (EM1901-31, 1/200) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

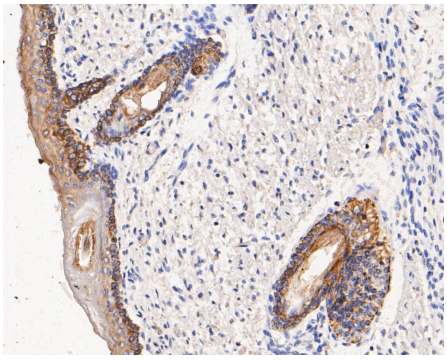

Fig3: Immunohistochemical analysis of paraffin-embedded human skin tissue using anti-Cytokeratin 14 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (EM1901-31, 1/200) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

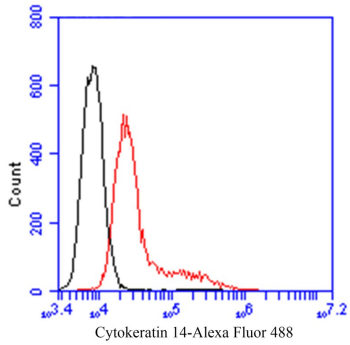

Fig4: Flow cytometric analysis of Cytokeratin 14 was done on A431 cells. The cells were fixed, permeabilized and stained with the primary antibody (EM1901-31, 1/100) (red). After incubation of the primary antibody at room temperature for an hour, the cells were stained with a Alexa Fluor 488-conjugated goat anti-Mouse IgG Secondary antibody at 1/500 dilution for 30 minutes.Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Background References

1. Bousquet O. et al. The nonhelical tail domain of keratin 14 promotes filament bundling and enhances the mechanical properties of keratin intermediate filaments in vitro. J. Cell Biol. 155:747-754(2001).
2. Schweizer J et al. "New consensus nomenclature for mammalian keratins". The Journal of Cell Biology. 174 (2): 169–74(2006).