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Anti-Cytokeratin 15 (KRT15) (Basal Cell Marker) Antibody

Mouse Monoclonal Antibody
Catalog # AH13359

Product Information

Application	WB, IHC-P, IHC-F, IF, FC
Primary Accession	P19012
Other Accession	654570
Reactivity	Human, Rat
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG2a, kappa
Clone Names	KRT15/1699
Calculated MW	49212

Additional Information

Gene ID	3866
Other Names	CK15; Cytokeratin 15; K1CO; Ka15; Keratin 15 basic; Keratin 15 beta; Keratin complex 1 acidic gene 15; Keratin type I cytoskeletal 15; KRT15; KRTB; KRTL15; Type I cytoskeletal 15; Type I keratin Ka15
Application Note	Flow Cytometry (0.5-1ug/million cells); Immunofluorescence (1-2ug/ml); ,Western Blotting (0.5-1ug/ml); ,Immunohistology (Frozen & formalin-fixed) (0.5-1.0ug/ml for 30 min at RT),(Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Citrate Buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes),Optimal dilution for a specific application should be determined.
Format	200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Anti-Cytokeratin 15 (KRT15) (Basal Cell Marker) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

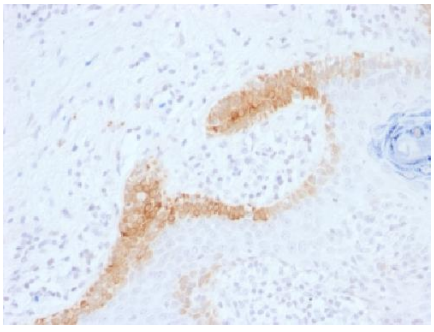
Name	KRT15 (HGNC:6421)
Synonyms	KRTB
Function	Structural component of intermediate filaments in the epithelium. Forms

	heteropolymers with type II keratin KRT5, assembling into keratin intermediate filament network that promotes mechanical resilience of undifferentiated cells, including hair follicle bulge cells, foregut basal progenitors and intestinal crypt cells. Displays an antagonist role with KRT14 in basal epithelial cells, where KRT14 promotes cell differentiation while KRT15 maintains the progenitor state and promotes proliferation and clonogenicity (PubMed:41511042). Promotes the progenitor state in basal keratinocytes by maintaining cytoplasmic YAP1 less effectively than KRT14 due to missing biochemical motifs, thereby allowing higher YAP1 nuclear activity (PubMed:41511042). Also contributes to epithelial cell regeneration after injury. In the absence of KRT14, forms a bona fide, but ultrastructurally distinct keratin filament network with KRT5 (By similarity).
Cellular Location	Cytoplasm {ECO:0000250|UniProtKB:Q61414}.
Tissue Location	Expressed in a discontinuous manner in the basal cell layer of adult skin epidermis, but continuously in the basal layer of fetal skin epidermis and nail. Also expressed in the outer root sheath above the hair bulb in hair follicle (at protein level) Expressed homogeneously in all cell layers of the esophagus and exocervix, but detected in the basal cell layer only of oral mucosa, skin and in the basal plus the next two layers of the suprabasal epithelium of the palate. Expressed in basal cells on the airway surface and in the gland ducts in pulmonary bronchus (PubMed:36512409)

Background

Keratins are a family of intermediate filament proteins that assemble into filaments through forming heterodimers of one type I keratin (keratins 9 to 23) and one type II keratin (keratins 1 to 8). Keratins demonstrate tissue and differentiation specific expression profiles. Keratin 15 is a type I keratin which is expressed only in basal keratinocytes in stratified epithelia and does not appear to have a natural type II expression partner. Keratin 15 is down regulated in activated keratinocytes. Cytokeratin 15 is a specific marker of stem cells of the hair-follicle bulge and may be a useful marker for diagnosis between basal cell carcinoma (BCC) and trichoepithelioma. Trichoblastoma are benign neoplasms of follicular differentiation frequently found in nevus sebaceous. Many morphologic features are shared with nodular basal cell carcinoma, sometimes rendering a diagnosis difficult. Trichoblastoma and BCC show variable expression of Cytokeratin 15 and Cytokeratin 19, and absence of hair keratins.

Images



Formalin-fixed, paraffin-embedded human Basal Cell Carcinoma stained with Cytokeratin 15 Monoclonal Antibody (KRT15/1699).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.