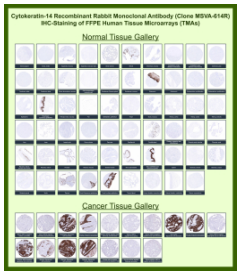
Basal cell keratin Antibody / Cytokeratin 14 [clone MSVA-614R] (V5932)

Catalog No.	Formulation	Size
V5932-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V5932-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MSVA-614R
UniProt	P02533
Localization	Cytoplasm, Nucleus
Applications	Immunohistochemistry (FFPE) : 1:100-1:200
Limitations	This Basal cell keratin/Cytokeratin 14 antibody is available for research use only.



Immunohistochemistry analysis of Basal cell keratin / Cytokeratin 14 antibody (clone MSVA-614R) in human tissues. Formalin-fixed, paraffin-embedded human tissue microarrays containing a wide range of normal and cancer tissues were stained using Basal cell keratin / Cytokeratin 14 recombinant rabbit monoclonal antibody (clone MSVA-614R). In normal tissues, brown chromogenic signal is observed in basal epithelial cells, including prostate basal cells and basal keratinocytes of stratified squamous epithelia such as skin, tonsillar surface epithelium, esophageal squamous epithelium, ectocervical epithelium, and urothelium, while most non-squamous tissues show little to no staining. In cancer tissues, strong cytoplasmic brown staining is observed in squamous cell carcinomas, whereas non-squamous malignancies such as adenocarcinomas and renal cell carcinomas are largely negative. The observed staining distribution is consistent with the known basal cell-restricted expression pattern of Cytokeratin 14 in human tissues.

Description

Basal cell keratin Antibody recognizes Cytokeratin 14, also known as Keratin 14 (KRT14), a type I intermediate filament protein that is a defining marker of basal epithelial cells in stratified squamous and glandular tissues. Cytokeratin 14 is a

cytoplasmic structural protein that forms obligate heterodimers with type II keratins, most prominently Keratin 5, to assemble the intermediate filament network that provides mechanical stability and anchorage for basal cells. Basal cell keratin Antibody is widely used in diagnostic pathology and research settings and is commonly referred to as Cytokeratin 14 antibody or CK14 antibody in the literature.

Cytokeratin 14 expression is characteristically restricted to the basal cell layer of stratified squamous epithelia, including epidermis, oral mucosa, esophagus, cervix, and prostate epithelium. In these tissues, CK14-positive basal cells represent the proliferative compartment responsible for epithelial maintenance and regeneration. As cells undergo terminal differentiation and migrate toward suprabasal layers, Cytokeratin 14 expression is downregulated and replaced by differentiation-associated keratins such as Cytokeratin 13 or Cytokeratin 10. This sharply confined basal localization makes Basal cell keratin Antibody particularly useful for distinguishing basal epithelial cells from differentiated luminal or suprabasal populations.

Alterations in Cytokeratin 14 expression have been documented in a range of pathological conditions. Expansion of basal cell keratin expression beyond the basal layer is frequently observed in epithelial hyperplasia, dysplasia, and squamous cell carcinoma, reflecting disrupted differentiation programs and altered epithelial architecture. For this reason, Cytokeratin 14 antibody staining patterns are commonly evaluated in research and translational studies focused on basal cell biology, squamous lineage specification, and epithelial tumor progression.

At the cellular level, Cytokeratin 14 contributes to cytoskeletal organization and participates in anchoring basal epithelial cells to the basement membrane through interactions with desmosomes and hemidesmosomes. Its basal cell-restricted expression makes Basal cell keratin Antibody a valuable tool for studying epithelial stratification, basal cell dynamics, and tissue organization. The Basal cell keratin Antibody (clone MSVA-614R) is designed to detect Cytokeratin 14 expression in research applications where identification of basal epithelial cells is required.

Application Notes

1. Optimal dilution of the Basal cell keratin/Cytokeratin 14 antibody should be determined by the researcher.

2. This KRT14/Type I cytoskeletal keratin 14 antibody is recombinantly produced by expression in human HEK293 cells.

3. Manual Protocol: Freshly cut sections should be used (less than 10 days between cutting and staining). Heat-induced antigen retrieval for 5 minutes in an autoclave at 121oC in pH 7.8 Target Retrieval Solution buffer. Apply the antibody at a dilution of 1:150 at 37oC for 60 minutes. Visualization of bound antibody by the EnVision Kit (Dako, Agilent) according to the manufacturer's directions.

Immunogen

Recombinant human KRT14 fragment (around amino acids 350-472) (exact sequence is proprietary) was used as the immunogen for the Basal cell keratin/Cytokeratin 14 antibody.

Storage

Basal cell keratin/Cytokeratin 14 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.