Cytokeratin 14

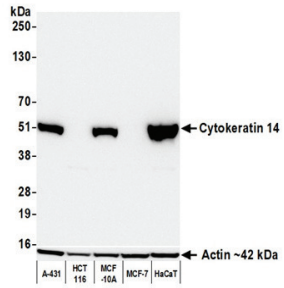
Product: Cytokeratin 14 (A700-293)
Reactivity: Human
Validated Applications: Flow Cyt, ICC, IHC, WB, IP

Full Name: Cytokeratin 14
Gene ID: 3861
Uniprot ID: P02533
Alternative Names: CK14, KRT14, Keratin 14

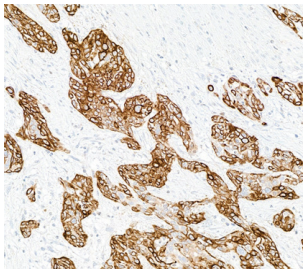
Background Information

Cytokeratin 14 (CK14) is one of the acidic type I cytokeratins that forms heterodimers with cytokeratin 5, a neutral-basic type II cytokeratin. These heterodimers form complexes to create intermediate filaments that provide structural support for cells. Cytokeratin 14 is expressed in basal cells of the stratified epithelia and is frequently thought of as a marker of mitotic activity[1]. Alterations in cytokeratin 14 expression have been linked to epidermolysis bullosa simplex, a human skin disorder[2], as well as metastasis of breast[3], lung[4], ovarian[5], and cervical[6] cancers.

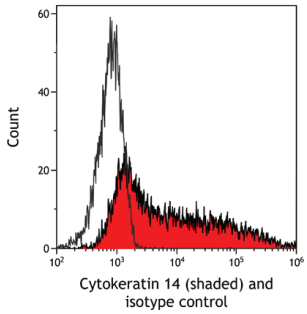
Featured Applications



Detection of human Cytokeratin 14 by western blot.
Antibody: A700-293 used at 1:1000.



Detection of human Cytokeratin 14 by immunohistochemistry.
Sample: FFPE section of bladder carcinoma. Antibody: A700-257.



Detection of human Cytokeratin 14 (shaded) by flow cytometry.
Sample: FaDu cells. Antibody: A700-293 used at 1µL per 1E6 cells.

References:
1. Bragulla HH, Homberger DG. Structure and functions of keratin proteins in simple, stratified, keratinized and cornified epithelia. J Anat. 2009;214(4):516-559. doi:10.1111/j.1469-7580.2009.01066.x
2. Yiasemides E, Trisnowati N, Su J, et al. Clinical heterogeneity in recessive epidermolysis bullosa due to mutations in the keratin 14 gene, KRT14. Clin Exp Dermatol. 2008;33(6):689-697. doi:10.1111/j.1365-2230.2008.02858.x
3. Cheung KJ, Padmanaban V, Silvestri V, et al. Polyclonal breast cancer metastases arise from collective dissemination of keratin 14-expressing tumor cell clusters. Proceedings of the National Academy of Sciences. 2016;113(7). doi:10.1073/pnas.1508541113
4. Yao S, Huang HY, Han X, et al. Keratin 14-high subpopulation mediates lung cancer metastasis potentially through Gkn1 upregulation. Oncogene. 2019;38(36):6354-6369. doi:10.1038/s41388-019-0889-0
5. Bilandzic M, Rainczuk A, Green E, et al. Keratin-14 (KRT14) Positive Leader Cells Mediate Mesothelial Clearance and Invasion by Ovarian Cancer Cells. Cancers (Basel). 2019;11(9):1228. doi:10.3390/cancers11091228
6. Smedts F, Ramaekers F, Troyanovsky S, et al. Keratin expression in cervical cancer. Am J Pathol. 1992;141(2):497-511.

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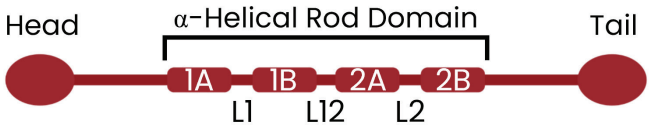
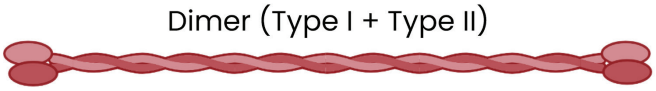
Cytokeratins

Rod domains are highly conserved. Head & tail domains provide differentiation and localization patterns.

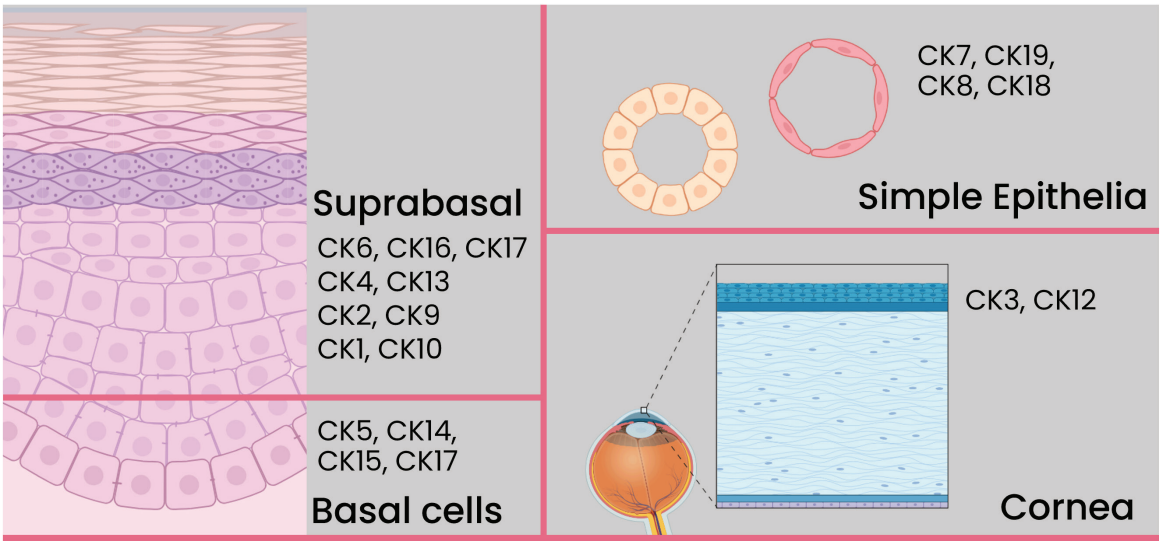


Type I and Type II cytokeratins form heterodimers.



Heterodimers combine to form tetramers creating ~10nm intermediate filaments.

Binding Partners	**Type II**	CK1	CK2	CK3	CK4	CK5	CK6	CK7	CK8
	Type I	CK10	CK9, CK10	CK12	CK13	CK14, CK15, CK17	CK16, CK17	CK19	CK18, CK19
Location		Suprabasal	Suprabasal	Cornea	Suprabasal	Basal cells	Suprabasal	Simple epithelia	Simple epithelia



Target	Product Number	Reactivity	Application	Clonality	Host
PanCytokeratin	A500-019A	Human	ICC-IF, IHC, IHC-IF, mIF	Monoclonal	Mouse
Cytokeratin 7	A700-186	Human	Flow Cyt, ICC, IHC, IP, WB	Monoclonal	Rabbit
Cytokeratin 14	A700-293	Human	Flow Cyt, ICC, IHC, WB	Monoclonal	Mouse
Cytokeratin 18	A500-035A	Human	Flow Cyt, ICC, IHC, WB	Monoclonal	Mouse
Cytokeratin 19	A500-036A	Human	ICC, IHC, WB	Monoclonal	Mouse
Cytokeratin 20	A700-105	Human	ICC, IHC, IP, WB	Monoclonal	Rabbit

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