
Biotinylated Monoclonal Antibody to Human Cytokeratin Marker For Cytokeratin In All Species

Monoclonal antibody Lu-5 recognizes most subtypes of cytokeratins in cryofixed and paraffin sections and is ideally suited as a first order pan-epithelial marker. The epitope recognized by Lu-5 is a formalin-resistant marker of great value in tumour diagnosis, located on the surface of cytokeratin filaments. It has been preserved during vertebrate evolution and can be shown in all species from amphibia to man. The epitope is present in most cytokeratin polypeptides of both the acidic (type I) and basic (type II) subfamily but does not occur in other cytoskeletal proteins. The epithelial specificity and the broad tissue and species cross-reactivity provide an excellent probe for the differential diagnosis of epithelial versus mesenchymal tumours, large cell lymphomas and neural tumours.

Product Number:	T-1341 (Lot 02PB1109)
Clone:	Lu-5
Host species, isotype:	Mouse IgG1
Quantity:	100µg
Format:	Affinity purified, biotinylated, lyophilized Reconstitute by adding 0.5ml distilled water. This stock solution contains 0.2mg/ml IgG, phosphate buffered saline pH 7.2 (PBS), 5mg/ml bovine serum albumin (BSA) and 0.01% Kathon as a preservative.
Stability:	Original vial: 1 year at 4° - 8°C Stock solution: 1 year at -20°C. Avoid repeated thawing and freezing.
Applications:	Tested for immunohistochemistry (IHC). Approximate working dilution for IHC: Frozen sections: 5µg/ml (1:40) Paraffin sections: 20µg/ml (1:15); Proteinase K pretreatment for antigen retrieval is recommended. Optimal dilutions should be determined by the end user. Suggested positive control: Human tonsil. Please see www.bma.ch for protocols and general information.
Immunogen:	Human lung cancer cell line.
Antigen, epitope:	Lu-5 stains an intracytoplasmic, formaldehyde (paraffin embedding) resistant epitope on the surface of cytokeratin filaments. The epitope consists of a conformation dependent part of the molecule which has been preserved during vertebrate evolution.

Antigen distribution

Lu-5 has been tested on a wide variety of healthy and tumorous human tissues. 95% of epithelial tumours regardless of their localisation and grade of differentiation were detected (Von Overbeck et al. 1985). It is currently used for differentiating epithelial and mesothelial tumours from mesenchymal tumors, large cell lymphomas and neuronal tumours.

Lu-5 Reaction Pattern on human tissues:

Normal tissues:

Stomach	1/1
Colon	6/6
Liver	12/12
Pancreas	3/3
Salivary glands	1/1
Tonsil	10/10
Bronchial and alveolar epithelium	9/9
Pleura	1/1
Kidney	15/15
Prostate	8/8
Epididymis	4/4 ^a
Ovary	2/2
Vagina	1/1
Fallopian tube	1/1
Breast	3/3
Thyroid	4/4
Epidermis (all layers)	3/3
Adrenal cortex	3/7
Synovial epithelium	2/3
Spleen	0/4
Muscle	0/2
Myocardium	0/2
Myometrium	0/4
Brain (cortex)	0/3
Nerve	0/2
Lymph node	0/6

Tumours:

Gastrointestinal tract	73/73
Urogenital tract	72/78 ^a
Respiratory tract	78/79
Endocrine tumors	48/57
Skin	11/11
Metastases (unknown primaries)	9/10
Mixed tumors	12/12 ^b
Mesothelial tumors	9/9
Lymphomas	0/25
Melanoma	0/21
Neural tumors	0/14
Seminoma	0/4
Soft tissue tumors	0/41

a: theca cell, 1 granulosa cell tumor negative

b: reaction restricted to the epithelial part

Selected references

Von Overbeck, J. et al.: Immunohistochemical characterization of an anti-epithelial monoclonal antibody (mAB lu-5). Virchows Arch. A: **407**, 1 (1985)

Franke, W.W. et al.: Identification of the conserved, conformation-dependent cytokeratin epitope recognized by monoclonal antibody (Lu-5). Virchows Arch A: **411**, 137, (1987).

For *in vitro* research only.