



## Mouse anti- Cytokeratin Pan (KL1)

Cat. No.: BMS056 (16 ml Ready-to-use)

### Instructions for use

#### Intended Use

This antibody is designed for the specific localization of cytokeratins in formalin-fixed, paraffin-embedded tissue sections.

Anti-Cytokeratin Pan antibody is intended for in vitro diagnostic use.

#### Specifications

<b>Specificity:</b>	Human cytokeratin (pan)
<b>Immunogen:</b>	purified keratin from human horny layer ( <i>Stratum corneum</i> )
<b>Clone:</b>	KL1
<b>Isotype:</b>	Mouse IgG1 $\kappa$
<b>Species reactivity:</b>	Human +, others not tested

#### Summary and explanation

Cytokeratins (CK) are intermediate filaments that constitute the cytoskeletal structure of virtually all epithelial but also of some non-epithelial cells. According to R. Moll they are divided into Type I (acidic cytokeratins, CK9 to 20) and Type II (basic cytokeratins, CK1 to 8) cytokeratins. Each Type I cytokeratin is co-expressed with a Type II cytokeratin inside a single cell. Hence, it follows that all epithelial cells contain at least two different cytokeratins. Only CK19 is expressed unpaired.

The antibody of clone KL1 detects cytokeratins 1, 2, 5, 6, 7, 8, 10, 11, 14, 16, 17, 18, and 19.

Detection of cytokeratins with a broad spectrum ("pan"-) antibody allows for the staining of epithelial cells in normal and abnormal tissues. It is especially useful in characterisation of metastases with unknown origin.

#### Reagent provided

Mouse monoclonal antibody in buffer with carrier protein and preservative for stabilisation in the following format:

**Ready-to-use:** 16 ml (Cat. No. BMS056)

#### Dilution of primary antibody

None

#### Storage and handling

The antibody should be stored at 2-8°C without further dilution.

If necessary, dilutions of the antibody should be done with a suitable antibody dilution buffer (e.g. ZUC025 from Zytomed Systems). The diluted antibody should be stored at 2-8°C after use. Stability of this working solution depends on various parameters and has to be confirmed by appropriate controls.

The antibody provided is stable until the expiry date indicated on the label, if stored at 2-8°C. Do not use product after the expiry date. Positive and negative controls should be run simultaneously with all specimens. If unexpected staining is observed which cannot be explained by variations in laboratory procedures and a problem with the antibody is suspected, contact Zytomed Systems' technical support or your local distributor.

#### Precautions

Use through qualified personnel only. Wear protective clothing to avoid contact of reagents and specimens with eye, skin and mucous membranes. If reagents or specimens come in contact with sensitive area, wash with large amounts of water.

Microbial contamination of the reagent must be avoided, since otherwise non-specific staining may occur.

ProClin300 and sodium azide ( $\text{NaN}_3$ ) are used for stabilisation. Reaction of sodium azide with lead or copper in drainage pipes can result in the formation of highly explosive metallic azides. Discard the antibody solution in a large volume of running water to avoid formation of deposits. A material safety data sheet (MSDS) for the pure substances is available upon request.

## Staining procedure

Refer to the following table for conditions specifically recommended for this antibody. Also refer to detection system data sheets for guidance on specific staining protocols or other requirements.

<u>Parameters</u>	<u>Zytomed Systems recommendations</u>
*Pre-treatment:	HIER: Heat Induced Epitope Retrieval (for example in Citrate Buffer pH 6.0)
*Control tissue	Skin, tonsil
*Working dilution	None
*Incubation time	60 minutes

## Quality control

The recommended positive control tissue for this antibody is skin or tonsil. We recommend carrying out a positive and a negative control with every staining run. Please refer to the instructions of the detection system for guidance on general quality control procedures.

## Troubleshooting

If you observe unusual staining or other deviations from the expected results please read these instructions carefully, refer to the instructions of the detection system for relevant information or contact your local distributor.

## Expected results

This antibody stains positive in the cytoplasm of normal and neoplastic cells of epithelial origin in formalin-fixed, paraffin-embedded tissue sections. The interpretation of the results is solely the responsibility of the user. Any experimental result should be confirmed by a medically established diagnostic procedure.

## Limitations of the Procedure

Immunohistochemistry is a complex technique involving both histological and immunological detection methods. Tissue processing and handling prior to immunostaining, for example variations in fixation and embedding or the inherent nature of the tissue can cause inconsistent results (Nadji and Morales, 1983). Endogenous peroxidase, pseudoperoxidase activity or biotin may cause non-specific staining depending on the detection system used. Tissues containing Hepatitis B Surface Antigen (HBsAg) may give false positive results with HRP (horse radish peroxidase) detection systems (Omata *et al*, 1980). Inadequate counterstaining and mounting can influence the interpretation of the results.

Zytomed Systems warrants that the product will meet all requirements described from its shipping date until the expiry date is reached, if the product is stored and utilised as recommended. No additional guarantees can be given. Under no circumstances shall Zytomed System be liable for any damages arising out of the use of the reagent provided.

## Performance characteristics

Zytomed Systems has conducted studies to evaluate the performance of the antibody utilising a standard detection system. The product has been found to be sensitive and specific to the antigen of interest with minimal or no cross-reactivity.

## Bibliography

Wells CA et al. Brit J Cancer 50:193-197, 1984  
Viac J et al. J Invest Dermatol 81:351-354, 1983  
Nadji M, Morales AR. Ann N Y Acad Sci 420:134-138, 1983  
Moll R et al. Cell 31:11-24, 1982  
Omata M et al. Am J Clin Pathol 73:626-632, 1980



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## Explanations of the symbols on the product

### label

Symbols are used in accordance with ISO 15223-1. Further symbols on the product label might be:



GSH07: Warning / Attention

**RUO**

For Research Use Only