



## Mouse anti-Cytokeratin 20

Cat. No.: **BMS037 (16 ml Ready-to-use)**

### Instructions for use

#### Intended use

This antibody is designed for the specific localisation of human Cytokeratin 20 in formalin-fixed, paraffin-embedded tissue sections.

Anti-Cytokeratin 20 antibody is intended for in vitro diagnostic use.

#### Specifications

<b>Specificity:</b>	Human Cytokeratin 20
<b>Immunogen:</b>	Cytokeratin 20 obtained from humane duodenal mucosa
<b>Clone:</b>	Ks20.8
<b>Isotype:</b>	Mouse IgG2a kappa
<b>Species reactivity:</b>	Human +, others not tested

#### Summary and Description

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 Ks20.8 recognises the low molecular weight cytokeratin 20 (CK20, 46 kDa). CK20 is expressed in the cytoplasm of epithelial cells in the stomach, small intestine, colon, urothelium as well as in Merkel cells of the skin. The majority of adenocarcinomas of colon and bladder express CK20.

In addition CK20 can be found in carcinomas of stomach, gall bladder and pancreas, in mucinous ovary tumours and in Merkel cell carcinomas. Very rarely focal positive staining is observed in lung carcinomas.

Adenocarcinomas of the breast and ovary, non-mucinous ovary carcinomas, thyroid gland and kidney carcinomas as well as prostate carcinomas, lymphomas, head-neck tumours, small-cell lung tumours, sarcomas, and melanomas are usually negative for CK20.

CK20 is often used in combination with CK7 for differentiation of colon carcinomas from ovary, lung and breast carcinomas.

#### Reagent provided

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

**Ready-to-use:** 16 ml (Cat. No. BMS037)

#### Dilution of primary antibody

None

#### Storage and handling

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

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

The antibody provided is suitable for use 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 (NaN<sub>3</sub>) 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>Parameter</u>	<u>Zytomed Systems recommendations</u>
* Pre-treatment	Enzymatic pre-treatment with FastEnzyme
* Control tissue	Skin
* Working dilution	None
* Incubation time	30 minutes

## Quality control

The recommended positive control tissue for this antibody is skin. 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 epithelial cells in formalin-fixed, paraffin-embedded tissue sections. Further details about the expression pattern of CK20 can be found in the chapter 'Summary and Description'. Interpretation of the staining 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 in erythrocytes 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 for use with 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

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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**

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