CE IVD

Mouse anti-E-cadherin

Cat. No.: MSK033 (1 ml Concentrate); MSK033-05 (0.5 ml Concentrate); MSG033 (6 ml Ready-to-use)

Instructions for use

Intended Use
This antibody is designed for the specific localization of E-cadherin in formalin-fixed, paraffin-embedded tissue sections. Anti-E-cadherin antibody is intended for in vitro diagnostic use.

Specifications

Specificity:	Human E-cadherin
Clone:	ECH-6
Isotype:	Mouse IgG1
Species reactions:	Human+, others not tested

Summary and explanation
E-cadherin is a glycoprotein of the cellular surface with a molecular weight of 123 kDa. It is also known as Uvomorulin, L-CAM, cell-CAM 120/80 or Arc-1.
Like other cadherins, E-cadherin is responsible for the calcium dependent adhesion between epidermal cells and other epithelial cell types. The loss of cell adhesion caused by E-cadherin is closely connected to the progression of various carcinomas. This for example was shown in breast or bladder carcinomas.
About 45% of the tumours of various organs show reduced expression of E-cadherin. E-cadherin expression in carcinomas has an inversely proportional relationship to the extent of differentiation. In breast carcinoma a correlation was observed between low expression of E-cadherin, lymph node metastases and poor prognosis. Most lobular carcinomas display a complete loss of E-cadherin expression.
The immunohistochemical detection of E-cadherin leads to a strong staining of the cytoplasmic membrane. However, an abnormal expression has also been observed inside the cytoplasm of tumour cells, which can suggest a negative prognosis (Nakopoulou *et al.*).

Reagent provided
Mouse monoclonal antibody in TBS with carrier protein and preservative for stabilisation in the following formats:

Concentrate:	1 mL	(Cat. no. MSK033)
Concentrate:	0.5 mL	(Cat. no. MSK033-05)
Pre-diluted:	6 mL	(Cat. no. MSG033)

Dilution of primary antibody
Dilution of Zytomed Systems' concentrated antibody depends on the detection system used. The final working dilution must always be determined by the user. The elaboration of staining protocol should be done by an experienced specialist. For Zytomed Systems' recommendations see chapter 'Staining procedure'.

Storage and handling
The antibody should be stored at 2-8°C without further dilution.
Dilutions of the concentrated 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 eye, skin or mucous membrane contact with the reagent. In case of the reagent coming into contact with a sensitive area, wash the area with large amounts of water.
Microbial contamination of the reagents must be avoided, since otherwise non-specific staining might appear.
Sodium azide (NaN_3), used for stabilisation, is not considered hazardous material in the concentration used. Reaction of sodium azide with lead or copper in drainage pipes can result in the formation of highly explosive metallic azides. Sodium azide should be discarded in a large volume of running water to avoid formation of deposits. A material safety data sheet (MSDS) 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.

Parameters	Zytomed Systems recommendations
*Pre-treatment:	Heat Induced Epitope Retrieval (for example in citrate buffer pH 6.0)
*Control tissue	Breast carcinoma
*Working dilution	1:100 (for concentrate antibodies)
*Incubation time	30 – 60 minutes

Quality control

The recommended positive control tissue for this antibody is breast carcinoma. 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

The antibody stains positive in the cytoplasmic membrane of E-cadherin positive cells in formalin-fixed, paraffin-embedded tissue. In addition to this an abnormal expression in the cytoplasm of tumour cells has been shown, which can suggest a negative prognosis (Nakopoulou et al.). 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 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 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

Bankfalvi A et al. Histopathol 34:25-34, 1999
Nakopoulou L et al. Histopathol 40:536-546, 2002
Elzagheid A et al. Histopathol 41:127-133, 2002
Horiguchi Y *et al*. J Histochem Cytochem 42:1333-1340, 1994
Nadji M and Morales AR Ann N.Y. Acad Sci 420:134-9, 1983
Omata M et al. Am J Clin Pathol 73(5): 626-32, 1980

www.zytomed-systems.de
Zytomed Systems GmbH • Anhaltinerstraße 16 • 14163 Berlin, Germany • Tel: (+49) 30-804 984 990

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