HISTOPRIME®

CatNo E006

Lot: See Label
Storage: +2 to +8 °C
Exp. Date: See Label

Cytokeratin Pan

Monoclonal Antibody against Cytokeratins

Specificity

A group of 19 different water-insoluble proteins forms the cytokeratins. Together with microtubules and microfilaments, they form the cytoskeleton of epithelial cells. Normally, it is the case that different cytokeratins are found simultaneously in one cell. This is independent of cell type, cell environment, disease and differentiation stage.

If a conversion from normal to neoplastic cells takes place, the expression of these proteins is maintained.

Contents

Reagents sufficient for about 60-120 tissue sections
1 dropper bottle **HISTOPRIME® Cytokeratin Pan** (Bottle, 6 ml)

Application

The monoclonal antibody AE1 allows specific recognition of the cytokeratin of the acidic subfamily (40, 48, 50 and 56.5 kD). The monoclonal antibody AE3 has the property to react with all cytokeratin of the basic subfamily. If the two clones are now mixed, a broad reaction spectrum is obtained for a large number of epithelia. Accordingly, this mixture recognizes epithelial neoplasms. There is no known cross-reactivity with other cytoskeletal proteins. Antibodies can also be used to differentiate between carcinoma and non-carcinoma.

Some carcinomas (e.g. urothelial carcinoma) predominantly express cytokeratin 13. Therefore, we recommend our Cytokeratin Cocktail (CatNo. E020) or a Cytokeratin 13 specific antibody (CatNo. E018) for this diagnosis. The Cytokeratin Cocktail contains the clones AE1 and AE3 as well as the clone Ks13.1 and therefore allows an even broader application than E006. E006 reacts specifically with cytokeratin 1-8, 10, 14-16 and 19.

Fusion Partners

Balb/c mice were immunized with human epithelial keratins and their spleen cells were fused with P3 myeloma cells. Furthermore, these spleen cells were tested for antikeratin activity by ELISA. Antibodies were purified by fractional salt precipitation.

E006-220109-1/2

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Characterization

Antigen	Human epidermal cytokeratin
Specificity	Epidermal basal layer (AE1)
Abnormal Tissues	Differentiation into carcinoma - non-carcinoma
Clone	AE1/AE3
Isotype	Mouse IgG1
Pretreatment	Proteolytic pretreatment with 0.1% Pronase (CatNo E110) 10 min at room temperature or HISTOPRIME-ENHANCER (CatNo E7000) 10 min at 96-100°C in a water bath or in a microwave oven
Incubation Period	1 hour by room temperature
Control Tissue	Appendix or colon carcinoma
Application	Ready-to-use in PBS, BSA, NaN_3 (0.09%) pH 7.4(*) suitable on cryostat sections and on formalin-fixed, paraffin-embedded tissue sections.
Recommended Secondary Reagents	**Alkaline Phosphatase** Vectastain® ABC Mouse IgG (Vector CatNo AK-5002) and Substrate-Kit e.g. Vector® Red (Vector CatNo SK-5100). **Peroxidase** Vectastain® ABC-Elite Mouse IgG (Vector CatNo PK-6102) and Peroxidase Substrate-Kit e.g. DAB (LINARIS CatNo E108) or HistoGreen (LINARIS CatNo E109).

References

1. Sun,T.-T and H.Green: Immunofluorescent staining of keratin fibers in cultured cells. Cell 14, 468(1978)
2. Franke, W.W., E.Schmid, M.Osborn and K.Weber: Different intermediate-sized filaments distinguished by immunofluorescence mocroscopy. Proc. Natl. Acad. Sci USA 75,5034-5038 (1978)
3. Sun, T.-T, C. Shih and H. Green: Keratin cytoskeletons in epithelial cells of internal organs. PNAS 76,2813-2817 (1979)
4. Franke, W. W., O. Appelhans, E. Schmid, C. Freudenstein, M. Osborn and K. Weber: Identification and characterization of epithelial cells in mammalian tissues by immunofluorescence microscopy using antibodies to prekeratin. Differentiation 15,7-25 (1979)
5. Sun, T.-T., R. Eichner, A. Schermer, D. Cooper, W. G. Nelson and R. A. Weiss: Classification expression and possible mechanisms of evolution of mammalian epithelial keratins: a unifing model. In: The Cancer Cell Vol.1, the transformed Phenotype A. Levine, W. Topp, G. Vande Woude and J. D. Watson, eds. Cold Spring Harbour Lab., N.Y. 169-176 (1984)
6. Woodcock-Mitchell, J., R. Eichner, W. G. Nelson and T.-T. Sun: Immunolocalisation of keratin polypeptides in human epidermis using monoclonal antibodies. J. Cell Biol. 95, 580-588 (1982)

Differential identification is aided by the results from a panel of antibodies. Interpretation must be made within the context of the patient's clinical history and other diagnostics tests by a qualified pathologist.

(*)Note **E006 contains Sodium Azide; take adequate precautions!**

E006-220109-2/2

For Research use only. Not for use in diagnostic procedure

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