GENE BIO SOLUTION

CYTOKERATIN 5/14 COCKTAIL

Format	Catalog no.	Pack size	Dilution
Concentrated	GB3025A,C	0.1, 1.0 mL	1:100
Prediluted	GB3025AA	6.0 mL	Ready to use

PRODUCT DESCRIPTION -

The CK5/CK14 monoclonal antibodies demonstrate superiority over CK5/6 and 34βE12. The Cytokeratin 5/14 antibody can be utilized to identify basal cells in the prostate and myoepithelial cells in breast cancer. Loss of epithelial staining accompanied by p63 is commonly observed in prostatic intraepithelial neoplasia (PIN) and prostate cancer. Furthermore, CK5/CK14 combined with AMACR (P504S) may be incorporated into the antibody panel utilized for evaluating neoplasia in prostate biopsies. Research indicates that CK5/14 positive sporadic breast cancers originate from glandularly committed progenitor cells, constituting approximately 9% of sporadic invasive ductal breast cancers and 78% of BRCA1-associated tumors.

INTENDED USE -

The Cytokeratin 5/14 Cocktail [XM26 + LL002] is a mouse monoclonal antibody mixture designed for laboratory application in the qualitative detection of cytokeratin proteins CK5 and CK14 using immunohistochemistry (IHC) in formalin-fixed paraffin-embedded (FFPE) human tissues. The clinical interpretation of any staining or its absence must be supplemented by morphological studies utilizing appropriate controls and assessed in conjunction with the patient's clinical history and other diagnostic tests by a skilled pathologist.

SUMMARY AND EXPLANATION -

CK5 [XM26] has positive reactivity for CK5 protein and absence of reactivity for CK6 protein as determined by ELISA. CK5 is present in various non-keratinizing stratified squamous epithelia, including the tongue mucosa, basal epithelia, hair follicles, trachea, basal cells of prostate glands, and myoepithelial cells of mammary glands. CK5 is predominantly expressed in the majority of epithelial and biphasic mesotheliomas. CK5 has also been observed in big cell carcinomas and lung squamous cell carcinoma. CK5 is expressed in luminal Type B breast tumors, which are triple-negative.

CK14 is a 50 kDa human intermediate filament protein. CK14 serves to differentiate stratified epithelial cells from basic epithelial cells.

It is expressed in the basal epithelium of the prostate and in the myoepithelium of normal breast tissue. CK14 serves as a valuable diagnostic in the differential diagnosis of squamous cell carcinoma associated with unfavorable clinical outcomes. CK14 is likewise expressed in luminal Type B breast tumors, akin to CK5. The CK5/CK14 monoclonal antibodies have demonstrated superiority over CK5/6 and betaE12. The Cytokeratin 5/14 Cocktail can be utilized to identify basal cells in the prostate and myoepithelial cells in breast cancer. Epithelium staining loss, accompanied by p63, is commonly observed in prostatic intraepithelial neoplasia (PIN) and prostate cancer. Furthermore, CK5/CK14 combined with AMACR (P504S) may be incorporated into the antibody panel utilized for evaluating neoplasia in prostate biopsies. The cocktail consisting of CK5, CK14, p63, and P504S has established itself as the standard diagnostic protocol for PIN and prostate cancer in numerous histopathology laboratories. Research indicates that CK5/14-positive sporadic breast cancers originate from glandularly committed progenitor cells, constituting around 9% of sporadic invasive ductal breast cancers and 78% of BRCA1-associated tumors.

PRINCIPLE OF PROCEDURE -

The identification of antigens in tissues and cells is a multi-step immunohistochemistry procedure. The first step attaches the primary antibody to its designated epitope. Following the tagging of the antigen with a primary antibody, a one-, two-, or three-step detection protocol may be utilized. The single-step approach will utilize an enzyme-conjugated polymer that attaches to the main antibody. A two-step approach will involve the addition of a secondary antibody to bind to the primary antibody. An enzyme-labeled polymer is subsequently introduced to attach to the secondary antibody. The three-step detection protocol involves the addition of a secondary antibody to bind to the primary antibody, followed by a linker antibody step to enhance binding efficacy. An enzyme-conjugated polymer is subsequently introduced to attach to the linker antibody. The presence of bound antibodies is demonstrated by a colorimetric response.

SOURCE - Mouse monoclonal

SPECIES REACTIVITY - Human; others not tested

CLONE - : XM26 + LL002

ISOTYPE - IgG1/kappa + IgG3

PROTEIN CONCENTRATION - Call for lot specific Ig concentration.

EPITOPE/ANTIGEN- CK5+CK14

CELLULAR LOCALISATION - Cytoplasmic

POSITIVE TISSUE CONTROL - Normal prostate

KNOWN APPLICATIONS - Immunohistochemistry
30-40 min. At RT. Staining of formalin-fixed tissues requires heating tissue sections in between pH 7.4 - 9.0 for 45 min at 95ºC followed by cooling at room temperature for 20 minutes.

SUPPLIED AS - Buffer with protein carrier and preservative

STORAGE AND STABILITY -

Store at 2ºC to 8ºC. The product is stable to the expiration date printed on the label, when stored under these conditions. Do not use after expiration date. Diluted reagents should be used promptly; any remaining reagent should be stored at 2ºC to 8ºC.

Materials required but not provided -

1) Positivetissuecontrol- Normalprostate
2) Negativecontroltissue(internalorexternal)
3) Microscopeslidesandcoverslips
4) Stainingjarsorbaths
5) Timer
6) Xyleneorxylenesubstitute
7) Ethanolorreagentalcohol
8) Deionizedordistilledwater
9) Heatingequipmentorenzymefortissuepretreatmentstep
10)Detection system
11)Chromogen
12)Wash buffer
13) Hematoxylin
14)Antibody diluents
15)Peroxide block
16)Light microscope
17)Mounting medium

LIMITATIONS-

The optimum antibody dilution and protocols for a specific application can vary. These include, but are not limited to fixation, heat-retrieval method, incubation times, tissue section thickness and detection kit used. Due to the superior sensitivity of these unique reagents, the recommended incubation times and titers listed are not applicable to other detection systems, as results may vary. The data sheet

recommendations and protocols are based on exclusive use of Genebio products. Ultimately, it is the responsibility of the investigator to determine optimal conditions.

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