CD4 (4B12)

Format	Catalog no.	Pack size	Dilution
Concentrated	GB 3148 A, C	0.1, 1.0 mL	1;100
Prediluted	GB 3148 AA	6.0 mL	Ready to use

PRODUCT DESCRIPTION -

CD4 is a transmembrane glycoprotein, expressed on normal thymocytes, T-helper cells, the majority of mature peripheral T cells, and a subset of suppressor or cytotoxic T cells. Like many cell surface receptors/markers, CD4 is a member of the immunoglobulin superfamily. CD4 is expressed in the majority of T-cell lymphomas, including mycosis fungoides. CD4 has been used in lymphoma panels that include CD3, CD5, CD8, CD7 and TIA-1 . A panel consisting of CD4(+), CD2(-) and CD56(+) antibodies was also used to help identify agranular natural killer cell lymphoma of the skin. A CD4 assessment may be useful in HIV-infected individuals, as HIV infection depletes intestinal CD4(+) T cells and has a strong association with the level of systemic CD4(+) T cell activation. Tumor infiltrating CD4 T cells may also be a prognostic factor for the strategy of early antitumor immunity.

INTENDED USE -

CD4 [4B12] is a mouse monoclonal antibody designed for laboratory application in the qualitative detection of CD4 protein 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 -

CD4 is a transmembrane glycoprotein found on normal thymocytes, T-helper cells, the majority of mature peripheral T cells, and a subset of suppressor or cytotoxic T cells. CD4, akin to several cell surface receptors and indicators, belongs to the immunoglobulin superfamily. CD4 is predominantly expressed in most T-cell lymphomas, including mycosis fungoides. CD4 has been utilized in lymphoma panels comprising CD3, CD5, CD8, CD7, and TIA-1. A panel comprising CD4(+), CD2(-), and CD56(+) antibodies was utilized to assist in the identification of agranular natural killer cell lymphoma of the skin. An evaluation of CD4 levels may

be beneficial in individuals infected with HIV, as the virus diminishes intestinal CD4(+) T cells and is closely linked to the degree of systemic CD4(+) T cell activation. Tumor infiltrating CD4 T cells may also be a predictive indicator for the approach of early anticancer immunity.

PRINCIPLE OF PROCEDURE -

The principle of procedure involves a multi-step immunohistochemistry method for antigen detection in tissues and cells. The initial step attaches the primary antibody to its specific epitope. After labeling the antigen with a primary antibody, a one-, two- or three-step detection procedure can be employed. The one-step procedure will feature an enzyme-labeled polymer that binds to the primary antibody. A two-step approach will involve the addition of a secondary antibody to bind to the primary antibody. An enzyme-labeled polymer is then added to attach to the secondary antibody. The three-step detection protocol will incorporate a secondary antibody to bind to the primary antibody, succeeded by a linker antibody step to enhance binding efficacy. An enzyme-conjugated polymer is subsequently introduced to attach to the linker antibody. The detection of bound antibodies is demonstrated by a colorimetric process.

SOURCE - : Mouse monoclonal

SPECIES REACTIVITY - Human; others not tested

CLONE - 4B12

ISOTYPE - IgG1/kappa

PROTEIN CONCENTRATION - Call for lot specific Ig concentration.

EPITOPE/ANTIGEN - Prokaryotic recombinant protein corresponding to the external domain of the CD4 molecule

CELLULAR LOCALISATION - Cell surface

POSITIVE TISSUE CONTROL - Tonsil

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 95°C 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. Do not use after expiration date printed on vial. If reagents are stored under conditions other than those specified in the package insert, they must be verified by the user. Diluted reagents should be used promptly; any remaining reagent should be stored at 2ºC to 8ºC.

Materials required but not provided -

1) Positive tissue control - Tonsil
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.