

CD71

Format	Catalog No.	Pack size	Dilution
Concentrated	GB3110A,B	0.1, 0.5 mL	1:100
Prediluted	GB3110AA	6.0 mL	Ready to use

PRODUCT DESCRIPTION -

CD71 (transferrin receptor), a cell surface proliferation marker, facilitates the cellular absorption of iron. CD71 demonstrates robust membranous and cytoplasmic staining in all erythroid precursors of both normal and dyspoietic bone marrow biopsies. The expression of CD71 diminishes as erythrocytes mature. The peak level is observed in early forms, whereas the lowest amount occurs in the late normoblast stage. Mature erythrocytes notably lack CD71 expression, hence facilitating bone marrow investigations. In comparison to other biomarkers for erythroid precursors, such as hemoglobin or CD235a (glycophorin A), CD71 exhibited the highest specificity in staining, characterized by clear and distinct patterns, and did not label adult red blood cells. CD71 was positive in all instances of parvovirus and acute erythroleukemia, in contrast to glycophorin A and hemoglobin A. CD71 did not exhibit staining in benign lymphoid infiltrates or low-grade lymphomas affecting the marrow. CD71 may thus serve as a dependable erythroid marker in bone marrow. Furthermore, CD71 was demonstrated to be significantly expressed in invasive breast cancer exhibiting acquired resistance to tamoxifen. Extensive CD71 staining was correlated with unfavorable outcome in ER+/luminal-like breast cancer.

INTENDED USE -

CD71 [H68.4] is a mouse monoclonal antibody designed for laboratory application in the qualitative detection of CD71 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 within the framework of the patient's clinical history and other diagnostic evaluations by a certified pathologist.

SUMMARY AND EXPLANATION -

CD71 (transferrin receptor), a cell surface proliferation marker, participates in the cellular absorption of iron. CD71 demonstrates pronounced membranous and cytoplasmic staining in all erythroid progenitors of both normal and dyspoietic bone marrow biopsies. CD71 expression diminishes as erythrocytes mature. The peak level is observed in early forms, whereas the nadir is found in the late normoblast stage. Mature erythrocytes notably lack CD71 expression, hence aiding bone

marrow studies . In comparison to other biomarkers for erythroid precursors, such as hemoglobin or CD235a (glycophorin A), CD71 exhibited the highest specificity in staining, characterized by clear and distinct patterns, and did not identify adult red blood cells . CD71 was positive in all instances of parvovirus and acute erythroleukemia, in contrast to glycophorin A and hemoglobin A. CD71 did not exhibit staining in benign lymphoid infiltrates or low-grade lymphomas affecting the marrow. CD71 may thus serve as a dependable erythroid marker in bone marrow. Furthermore, CD71 was demonstrated to be significantly expressed in invasive breast cancer exhibiting acquired resistance to tamoxifen . Extensive CD71 staining was correlated with unfavorable outcome in ER+/luminal-like breast cancer.

PRINCIPLE OF PROCEDURE -

Antigen detection 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 secondary antibody is introduced to attach to the primary antibody. An enzyme label is subsequently introduced to attach to the secondary antibody; the detection of the attached antibody is shown by a colorimetric reaction.

SOURCE - : Mouse monoclonal

SPECIES REACTIVITY - Human; others not tested

CLONE - H68.4

ISOTYPE - IgG1

PROTEIN CONCENTRATION - ~10 mg/ml. Call for lot specific Ig concentration.

EPITOPE/ANTIGEN - CD71

CELLULAR LOCALISATION - Cell membrane, cytoplasm

POSITIVE TISSUE CONTROL - Bone marrow

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 2°C to 8°C. 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 2°C to 8°C.

Materials required but not provided -

- 1) Positive tissue control - Bone marrow
- 2) Negative control tissue (internal or external)
- 3) Microscope slides and coverslips
- 4) Staining jars or baths
- 5) Timer
- 6) Xylene or xylene substitute
- 7) Ethanol or reagent alcohol
- 8) Deionized or distilled water
- 9) Heating equipment or enzyme for tissue pretreatment step
- 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.