GENE BIO SOLUTION

MART-1 + Tyrosinase + SOX10

Format	Catalog no.	Pack size	Dilution
Concentrated	- GB-	-	-
Prediluted	p3063G	6.0mL	Ready to use

PRODUCT DESCRIPTION -

Melanoma Antigen Recognized by T Cells 1 (MART-1) identifies a protein with a molecular weight of 18 kDa. Due of its specificity for melanocytic lesions, MART-1 is an asset to melanoma panels. When it comes to tagging metastatic melanomas, research has demonstrated that MART-1 is superior to HMB45. The first steps of melanin formation require the enzyme tyrosinase. Tyrosinase is a more sensitive marker than HMB45 and MART-1, according to studies. Additionally, compared to HMB45, it labels a greater proportion of desmoplastic melanomas.Metastatic melanoma in sentinel lymph nodes can be better identified with the help of MART-1 and Tyrosinase.

During the formation of the neural crest, peripheral nervous system, and melanocytic cells, the transcription factor SRY-related HMG-Box gene 10 (SOX10) is involved. Melanocytes and breast tissue are among the many normal human tissues that express SOX10. Melanoma, breast cancer, gliomas, and benign tumors like schwannomas all use SOX10 as a marker. Moreover, it has been demonstrated that 100% of nevi and the great majority of desmoplastic and spindle cell melanomas express SOX10. Additionally, background fibroblasts and histiocytes within scars are less likely to express SOX10 than S100, suggesting that SOX10 may be better in these circumstances.

INTENDED USE -

For In Vitro Diagnostic Applications MART-1, Tyrosinase, and SOX10 constitute a combination of mouse monoclonal antibodies designed for laboratory application in the qualitative detection of MART-1, Tyrosinase, and SOX10 proteins using immunohistochemistry (IHC) in formalin-fixed paraffin-embedded (FFPE) human tissues. The clinical assessment of any staining or its absence must be supplemented by morphological analyses utilizing appropriate controls and should be interpreted in conjunction with the patient's clinical history and other diagnostic evaluations by a certified pathologist.

SUMMARY AND EXPLANATION -

MART-1 identifies an 18 kDa protein, designated as MART-1 (Melanoma Antigen Recognized by T cells 1). MART-1 is a valuable enhancement to melanoma panels due to its specificity for melanocytic tumors. Research indicates that MART-1 has greater sensitivity than HMB45 in the labelling of metastatic melanomas. Tyrosinase is a crucial enzyme that participates in the preliminary phases of melanin production. Research indicates that Tyrosinase serves as a more sensitive marker than HMB45 and MART-1. It has been demonstrated to identify a greater proportion of desmoplastic melanomas compared to HMB45. The combination of MART-1 and Tyrosinase facilitates the identification of metastatic melanoma in sentinel lymph node. The transcription factor SRY-related HMG-Box gene 10 (SOX10) is crucial for the development of neural crest, peripheral nervous system, and melanocytic cells. SOX10 is extensively expressed in normal human tissues, including melanocytes and breast tissue. SOX10 serves as a significant marker in malignant neoplasms, including melanoma, breast carcinoma, and gliomas, as well as in benign tumors such schwannomas. Significantly, SOX10 has been demonstrated to be expressed in the predominant majority of desmoplastic and spindle cell melanomas, as well as in 100% of nevi. SOX10 is less probable than S100 to be expressed by background fibroblasts and histiocytes in scars, suggesting that SOX10 may be more advantageous than S100 in these instances. The combination of SOX10 with MART-1 and/or Tyrosinase has demonstrated a greater staining prevalence in lymph node melanomas and metastatic melanoma relative to S100. It has been demonstrated to possess greater specificity than S100, as S100 stains dendritic processes in lymph nodes, whereas SOX10, MART-1, and Tyrosinase yield negative results. The combination of SOX10, MART-1, and Tyrosinase may be appropriate for malignancies of indeterminate origin or in the differential diagnosis of melanoma and its imitators.

PRINCIPLE AND 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, an enzyme-conjugated polymer is introduced to bind to the primary antibody. The presence of the bound antibody is indicated by a colorimetric response.

REAGENT PROVIDED -

MART-1 + Tyrosinase + SOX10 is provided as a prediluted antibody cocktail of anti-MART-1, anti-Tyrosinase and anti-SOX10 antibodies in buffer with carrier protein and preservative.

ANTIBODY	Anti - MART-1	Anti - Tyrosinase	Anti - SOX10
CLONE	M2-9E3	T311	BC34
SOURCE	Mouse monoclonal	Mouse monoclonal	Mouse monoclonal
ISOTYPE	IgG2b	IgG2a	IgG1
EPITOPE /ANTIGEN	MART-1	Tyrosinase	SOX10
CELLULAR LOCALIZATION	Cytoplasmic	Cytoplasmic	Nuclear
STAINING	Brown(DAB)	Brown(DAB)	Brown(DAB)

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.

SPECIES REACTIVITY - Human; others not tested

POSITIVE TISSUE CONTROL - Melanoma

STORAGE AND STABILITY -

Store at 2°C to 8°C. 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.

Materials required but not provided -

1) Positivetissuecontrol-Melanoma
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. The clinical interpretation of any positive or negative staining should be evaluated within the context of clinical presentation, morphology and other histopathological criteria by a qualified pathologist.