GENE BIO SOLUTION

AK PD-1

Format	Catalog No.	Pack size	Dilution
Concentrated	GB3137AK,CK	0.1, 1.0 mL	1:100
Prediluted	GB3137AA	6.0 mL	Ready to use

PRODUCT DESCRIPTION -

Programmed death 1 (PD-1) is a cell surface co-receptor within the CD28/CTLA-4 T cell family, functioning as an immunological downregulator via a dual inhibitory mechanism. PD-1 is present on the surface of activated T and B lymphocytes. The PD-1/PD-L1 signaling pathway may regulate anti-tumor immunity. PD-L1, a ligand linked to PD-1, confers protection to tumor cells by triggering apoptosis in activated T cells or by suppressing cytotoxic T cells. Therapies targeting the PD-1 receptor have demonstrated remarkable efficacy, yielding elevated clinical response rates in patients with diverse cancer types. PD-1 positive tumor-infiltrating lymphocytes (TIL) are correlated with unfavorable prognosis in human breast malignancies and may be beneficial in antibody therapy aimed against the PD-1/PD-L1 signaling pathway . Therapies aimed at PD-1 and its ligand, PD-L1, have demonstrated promising outcomes in non-small-cell lung carcinoma, renal cell carcinoma, and melanoma.

INTENDED USE -

Intended for In Vitro Diagnostic Applications PD-1 [NAT105] is a mouse monoclonal antibody designed for laboratory applications to qualitatively identify PD-1 protein 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 additional diagnostic evaluations by a certified pathologist.

SUMMARY AND EXPLANATION -

Programmed death 1 (PD-1) is a cell surface co-receptor within the CD28/CTLA-4 T cell family, functioning as an immunological downregulator via a dual inhibitory mechanism. PD-1 is present on the surface of activated T- and B-lymphocytes. The PD-1/PD-L1 signaling pathway may regulate anti-tumor immunity. PDL1, a ligand linked to PD-1, confers protection to tumor cells by triggering apoptosis in activated T cells or by suppressing cytotoxic T cells. Therapies targeting the PD-1 receptor have demonstrated remarkable efficacy, yielding elevated clinical response rates in patients with diverse cancer types. The existence of PD-1 positive tumor-infiltrating

lymphocytes (TIL) correlates with unfavorable prognosis in human breast malignancies and may be beneficial in antibody therapy aimed against the PD-1/PD-L1 signaling pathway. Treatments aimed at PD-1 and its ligand, PD-L1, have demonstrated promising outcomes in non-small cell lung cancer, renal cell carcinoma, and melanoma.

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. Subsequent to the tagging of the antigen with a primary antibody detection, a one-, two-, or three-step approach may be utilized. The process will use an enzyme-labeled 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. A polymer tagged with an enzyme is subsequently introduced to bind 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 linkerantibody.Thepresenceofboundantibodiesisdemonstratedbyacolorimetric response.

SOURCE - Rabbit monoclona

SPECIES REACTIVITY - Human; others not tested

CLONE - NAT105

ISOTYPE -IgG1/kappa

PROTEIN CONCENTRATION - Call for lot specific Ig concentration.

EPITOPE/ANTIGEN - PD-1

CELLULAR LOCALISATION - Cytoplasmic/membranous

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 Monet Blue Diluent (PD901)

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-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.