

## CD137

Format	Catalog No.	Pack size	Dilution
Concentrated	GB3201A,B	0.1, 0.5 mL	1:100
Prediluted	GB3201AA	6.0 mL	Ready to use

### PRODUCT DESCRIPTION -

CD137, a constituent of the tumor necrosis factor receptor superfamily, is a promising target for augmenting anticancer immune responses. CD137 activities in T cells encompass the regulation of activation, proliferation, and apoptosis. CD137 facilitates the regulation of the activation of several immune cells, including CD4(+) T cells, CD8(+) T cells, dendritic cells, and natural killer cells. Recent studies demonstrate that the anticancer efficacy of therapeutic tumor-targeting antibodies can be enhanced by including agonistic antibodies that target CD137. Ligation of CD137 delivers a costimulatory signal across many immune cell subsets, indicating that CD137 antibodies may enhance cancer therapy and have been associated with breast cancer, melanoma, and lymphoma. Consequently, CD137 agonists signify a viable immunotherapeutic strategy for cancer treatment.

### INTENDED USE -

For In Vitro Diagnostic Applications CD137 [BBK-2] is a mouse monoclonal antibody designed for laboratory applications to qualitatively identify the 4-1BB (CD137) 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 other diagnostic evaluations by a certified pathologist.

### SUMMARY AND EXPLANATION -

CD137, a constituent of the tumor necrosis factor receptor superfamily, signifies a possible target for augmenting anticancer immune responses (1). CD137 activities in T cells encompass the regulation of activation, proliferation, and apoptosis (2). CD137 facilitates the regulation of the activation of several immune cells, including CD4(+) T cells, CD8(+) T cells, dendritic cells, and natural killer cells. Recent studies demonstrate that the anticancer efficacy of therapeutic tumor-targeting antibodies can be enhanced by including agonistic antibodies that target CD137. Ligation of CD137 delivers a costimulatory signal across many immune cell subsets, indicating that CD137 antibodies may enhance cancer therapy and have been associated with

breast cancer, melanoma, and lymphoma (3-5). Consequently, CD137 agonists constitute a promising immunotherapeutic strategy for cancer treatment.

#### PRINCIPLE OF PROCEDURE -

Antigen detection in tissues and cells is a multi-step immunohistochemistry procedure. The first step attaches the primary antibody to its corresponding 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 demonstrated by a colorimetric reaction.

SOURCE - Mouse monoclonal

SPECIES REACTIVITY - Human; others not tested

CLONE - BBK-2

ISOTYPE - IgG1/kappa

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

EPITOPE/ANTIGEN - Ectodomain of human 4-1BB recombinant protein

IMMUNOGEN- Prokaryotic recombinant protein corresponding to 327 amino acids of the human IgG molecule

CELLULAR LOCALISATION - Cell surface

POSITIVE TISSUE CONTROL - Small intestine with Peyer's patches, 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 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. 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 - Small intestine with Peyer's patches, tonsil
- 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.