Intended Use

For Research Use Only.

This antibody is intended for use in Immunohistochemical applications on formalin-fixed paraffin-embedded tissues (FFPE), frozen tissue sections and cell preparations. Interpretation of results should be performed by a qualified medical professional.

Immunogen

Synthetic peptide conjugated to KLH corresponding to the C-terminal residues of the human B7H3/CD276 protein.

Summary and Explanation

B7-H3, also known as CD276, is a human protein encoded by the CD276 gene. The protein encoded by this gene belongs to the immunoglobulin superfamily, and thought to participate in the regulation of T-cell-mediated immune response. Studies show that while the transcript of this gene is ubiquitously expressed in normal tissues and solid tumors, the protein is preferentially expressed only in tumor tissues, such as melanoma, prostate cancer, and pancreatic cancer. B7-H3 mRNA is not detectable in peripheral blood mononuclear cells, although it is found in various normal tissues and in several tumor cell lines. Expression of B7-H3 protein, however, can be induced on dendritic cells (DCs) and monocytes by inflammatory cytokines. Soluble B7-H3 protein binds a putative counter-receptor on activated T cells that is distinct from CD28, cytotoxic T lymphocyte antigen 4 (CTLA-4), inducible costimulator (ICOS) and PD-1. B7-H3 costimulates proliferation of both CD4+ and CD8+ T cells, enhances the induction of cytotoxic T cells and selectively stimulates interferon gamma (IFN-gamma) production in the presence of T cell receptor signaling.

Recently, B7-H3 expression has been reported in several human cancers indicating an additional function of B7-H3 as a regulator of antitumor immunity. However, its precise physiologic role is still elusive, because both stimulatory and inhibitory capacities have been demonstrated. B7-H3 has been shown in recent years to be of clinical significance in different types of cancer. In some tumors high expression of B7-H3 has been linked to a poor prognosis, whereas in other cancers the opposite effect has been observed. Taken together, the precise role of B7-H3 in tumor immunity is unclear and further research is needed. Another aspect of B7-H3, that so far has received little interest, is its role in non-immunological systems. It has been demonstrated that knockdown of B7-H3 in melanoma and breast cancer cells results in both increased chemosensitivity and decreased metastatic potential, which has been observed in both in vivo and in vitro experiments.

Presentation

B7H3/CD276, RMab

Clone: RBT-B7H3

Rabbit Monoclonal

Antibody Type

Concentrated

IgG

Tinto Prediluted

Reactivity

1:25 - 1:100

Testis, Adrenal, Tonsil, Breast, Fallopian Tube, Breast Carcinoma, Prostate Carcinoma and Ovarian Carcinoma

Species Reactivity

Human, Predicted: Mouse

Precautions

1. For professional users only. Ensure results are interpreted by a medical professional.
2. This product contains sodium azide (NaN3), a toxic chemical which may react with plumbing to form highly explosive build-ups of metal azides. Upon disposal, flush with large volumes of water to prevent sodium azide build-up.
3. Ensure proper handling procedures are used with reagent. Always wear proper laboratory equipment such as laboratory coat and gloves when handling reagents.
4. Unused solution should be disposed of according to local and federal regulations.
5. Do not ingest reagent. If reagent ingested, contact a poison control center immediately.

Storage

Store at 2-8 °C. Do not use after expiration date listed on package label. Temperature fluctuations should be avoided. Store appropriately when not in use, and avoid prolonged exposure to room temperature conditions.

Specimen Preparation

Paraffin sections: The antibody can be used on formalin-fixed paraffin-embedded (FFPE) tissue sections. Ensure tissue undergoes appropriate fixation to ensure best results. Pre-treatment of tissues with heat-induced epitope retrieval (HIER) is recommended using Bio SB ImmunoDNA Retriever with Citrate (BSB 0020-B50 0023), ImmunoDNA Retriever with EDTA (BSB 0030-BSB 0033) or ImmunoDNA Digester (BSB 0108-0112). See reverse side for complete protocol. Tissue should remain hydrated via use of Bio SB Immuno/DNA Washer solutions (BSB 0029 & BSB 0042).

Frozen sections and cell preparations: The antibody can be used for labeling acetone-fixed frozen sections and acetone-fixed cell preparations.
### Quality Control Procedure

<table>
<thead>
<tr>
<th>Step</th>
<th>ImmunoDetector HRP/DAB</th>
<th>PolyDetector Plus HRP/DAB</th>
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</thead>
<tbody>
<tr>
<td>Epitope Retrieval (HIER)</td>
<td>15 minutes</td>
<td>15 minutes</td>
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<tr>
<td>Peroxidase/AP Blocker</td>
<td>5 minutes</td>
<td>5 minutes</td>
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<tr>
<td>Primary Antibody</td>
<td>30-60 minutes</td>
<td>30-60 minutes</td>
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<tr>
<td>1st Step Detection</td>
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<tr>
<td>2nd Step Detection</td>
<td>10 minutes</td>
<td>15 minutes</td>
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<tr>
<td>Substrate-Chromogen</td>
<td>5-10 minutes</td>
<td>5-10 minutes</td>
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<tr>
<td>Counterstain</td>
<td>Varies</td>
<td>Varies</td>
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</tbody>
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### Product Limitations

Due to inherent variability present in immunohistochemical procedures (including fixation time of tissues, dilution factor of antibody, retrieval method utilized and incubation time), optimal performance should be established through the use of positive and negative controls. Results should be interpreted by a medical professional.

### References