CD1a (O10)

Format	Catalog No.	Pack size	Dilution
Concentrated	G2096 A, B, C	0.1, 0.5, 1.0 mL	1:100 - 200
Prediluted	G2096 AA, BB	6.0, 3.0 mL	Ready to use

ANTIBODY SPECIFICATIONS

- **HOST SPECIES**: Mouse
- **CLONE**: O10
- **ISOTYPE**: IgG1/Kappa
- **CELLULAR LOCALIZATION**: Cell surface
- **IMMUNOGEN**: Human thymus cells
- **MOLECULAR WEIGHT**: ~ 49 kDa
- **SPECIES REACTIVITY:** Human; other species not tested.
- **POSITIVE CONTROLS**: MOLT-4 cells. Paracortex in a tonsil or a reactive lymph node

INTENDED USE

This antibody is intended **for research use only (RUO)** and is not approved for diagnostic or therapeutic applications. It is optimized for the detection of CD1a protein in formalin-fixed, paraffin-embedded (FFPE) human tissues by immunohistochemistry (IHC).

SUMMARY AND APPLICATION

There are at least five known CD1 genes: CD1a, b, c, d, and e. It has been shown that CD1 proteins limit the T-cell response to glycolipid and non-peptide lipid antigens and contribute to non-classical antigen presentation. A non-polymorphic glycoprotein associated with MHC Class I, CD1a is expressed in conjunction with beta-2 microglobulin. As CD1a is consistently expressed in thymic lymphocytes in both typical and atypical thymomas, but only focally in 1/6 of thymic carcinomas and not in lymphocytes in pulmonary neoplasms, anti-CD1a, when paired with antibodies against TTF-1 and CD5, can help differentiate between pulmonary and thymic neoplasms. According to reports, a novel marker for perivascular epithelial cell tumours (PEComa) is anti-CD1a.

SCIENTIFIC BACKGROUND

There are at least five known CD1 genes: CD1a, b, c, d, and e. Dendritic cells, Langerhans cells, and cortical thymocytes all express CD1. On mature peripheral blood T cells, it is not present. cells but intracytoplasmic expression is detected on activated T lymphocytes. CD1 proteins have been found to restrict T-cell response to non-peptide lipid and glycolipid antigens and play a function in non-classical antigen presentation. O10 identifies cortical thymocytes, Langerhans cells in epidermis, dendritic cells of dermis and Langerhans cells of mucosa of tonsil. Additionally, it might identify tiny focal clusters of lymphocytes outside the tonsil germinal centres, which would suggest a cross-reaction with CD1b. This antibody is useful in the characterization of leukemias and lymphomas.

RECOMMENDED USAGE

- **IHC Protocol Highlights:**

  - Dilution: 1–2 µg/mL
  - Incubation: 30 minutes at room temperature
  - Antigen Retrieval: Heat in 10 mM Tris with 1 mM EDTA (pH 9.0) at 95°C for 45 minutes, followed by cooling
- **Specimen Type**: FFPE sections, preferably ~4 µm

FORMULATION & STORAGE:

- Buffer: 10 mM PBS, 0.05% BSA, 0.05% sodium azide
- Storage:
  - Dilution: 1–2 µg/Ml
  - Without azide: –20 to –80°C
- Shelf Life: 24 months under proper conditions
- Hazard Classification: Non-hazardous; no MSDS required

LIMITATIONS

- Interpretation must be made by a qualified pathologist
- Tissue fixation and handling may affect staining quality
- Negative results do not always indicate absence of antigen—consider panel testing

PRECAUTIONS

- Contains 0.05% sodium azide – avoid ingestion and contact with skin or mucosa
- Wear gloves and avoid contact with eyes or mucosa
- Do not use reagents past expiration or if packaging appears compromised
- Do not pipette by mouth or reuse slides/containers without proper sterilization

TECHNICAL SUPPORT

For technical assistance, please contact Genebio Solution's Technical Support at www.genebiosolution.com