Anti-Human CD30 (Ki-1)
Lymphoma Tumor Cell Marker
Mouse Monoclonal Antibody Ber-H2

Product Information

**Catalog No.:** DIA-300-P01 (100μg)  DIA-300-LM (20μg sample)
**Clone:** Ber-H2  **Reconstitution:** DIA-300-P01: Restore to 500μl with sterile distilled water by gentle shaking for 10 minutes.
**Concentration:** 0.2 mg/ml  **DIA-300-LM: Liquid, no reconstitution**
**Isotype:** Mouse IgG1  **Applications:** Immunohistochemistry (standard formalin-fixed paraffin and frozen sections), Western blot, Others not tested
**Specificity:** Human CD30 (Ki-1)  **Dilutions:** 1:160 (Immunohistochemistry)
**Immunogen** Co cell line established from a patient with Hodgkin’s disease of T-cell lineage
**Physical State:** DIA-300-P01: Lyophilized powder  **(General recommendation, optimal dilutions should be determined by the end user)**
DIA-300-LM: Liquid (100μl)
**Species Reactivity:** Human
**Positive Control:** Anaplastic large cell lymphoma, Hodgkin’s lymphoma
**Visualization:** Cytoplasmic

**Applications**
The CD30 antibody Ber-H2 is suitable for confirming the diagnosis of classical Hodgkin’s lymphoma (CHL) since it reacts selectively with the tumor cells of all CHL cases and discriminates CHL from nodular lymphocyte predominant Hodgkin’s lymphoma (NLPHL). NLPHL tumor cells are either totally unreactive (most instances) or only very weakly reactive with the Ber-H2 antibody. In cases where discrimination between CHL and NLPHL is difficult additional antibodies like CD15, CD75 and anti-J-chain should be applied.

The Ber-H2 antibody is also essential for the diagnosis of anaplastic large cell lymphomas (ALCL) as all tumor cells of all ALCL cases, including those which arise primarily in the skin are strongly positive for the Ber-H2-epitope of the CD30 antigen. In addition Ber-H2 strongly reacts with atypical cells of lymphomatoid papulosis. In cases where a discrimination between CHL and ALCL is not possible on the basis of morphology and the Ber-H2-reactivity the application of an antibody against PAX5 is helpful since PAX5 is expressed in more than 95% of CHL and it is consistently absent from ALCL cells. Furthermore the Ber-H2 antibody is also helpful for the distinction of ALCL from the large-cell variant of peripheral T-cell lymphoma (pTCL) since only a proportion of the tumor cells (i.e. the large blastoid ones) are reactive with Ber-H2.

The application of the Ber-H2 antibody is also useful for obtaining evidence for EBV-infected cells in lymphoproliferative lesions with infectious mononucleosis, EBV-positive diffuse large B-cell lymphoma of the elderly, lymphoid granulomatosis and lymphoproliferative diseases associated with primary immune disorders. Since CD30 expression is only a hint for a possible EBV-infection, EBV-specific assays should be applied like EBER in situ hybridization to confirm or exclude the presence of EBV.

Ber-H2 is highly suitable for the discrimination of lymphoproliferative neoplasms mentioned above including diffuse large B-cell lymphoma (DLBCL) from Burkitt lymphoma since Burkitt lymphomas are consistently unreactive with the CD30 antibody Ber-H2 irrespective of whether the Burkitt lymphoma cells are infected by EBV or not. Outside the lymphoid system, the Ber-H2 antibody is useful for the differential diagnosis between embryonal carcinomas, which are CD30 positive, and seminomas, which are CD30 negative.

**Reactivity**
The monoclonal antibody Ber-H2 detects a CD30 specific epitope which is present in duplicate on the extracellular domain of the CD30 molecule.

In non-neoplastic tissues the CD30 antigen is expressed on few activated lymphoid blasts of B-cell and/or T-cell origin. The CD30 expression in B- and T-cells can be induced by forced activation, e.g. by mitogens and IL-2 as well as by the Epstein-Barr virus (EBV). Beyond the lymphoid system, CD30 is expressed by a proportion of decidual cells. Ber-H2 is consistently non-reactive with macrophages, dendritic cells and plasma cells provided that the Ber-H2-epitope has been made accessible to the Ber-H2 antibody by an appropriate heat-induced antigen retrieval method.
Even in neoplastic conditions, the Ber-H2 reactivity is restricted. Ber-H2 reacts nearly selectively with Hodgkin- and Reed-Sternberg cells of all cases of classical Hodgkin’s lymphoma and with all anaplastic large cell lymphomas irrespective of whether they are positive for the anaplastic lymphoma kinase (ALK) or not. Ber-H2 reactivity is also encountered on a proportion of cells present in peripheral T-cell lymphoma containing large blastoid tumour cells. The same is true for enteropathy-associated T-cell lymphoma and adult T-cell lymphoma/leukemia. Ber-H2 also stains a varying number of blastoid cells in lymphoproliferative diseases associated with primary immune disorders, especially when the lesional cells are infected by EBV. Outside the lymphoid system, the embryonal carcinoma is consistently positive for CD30. A weak and inconsistent expression of the Ber-H2-epitope of the CD30 antigen may be observed in few poorly differentiated carcinomas and sarcomas.

Instructions for Use

Immunohistochemical staining of standard formalin-fixed paraffin sections. Deparaffinize and rehydrate according to standard procedures. Heat induced epitope retrieval (HIER) is required. For immunohistochemical detection different techniques can be used: indirect immunoenzyme labeling with a secondary antibody conjugate, biotin/(strept)avidin-based detection, soluble enzyme immune complex or polymer-based detection.

Storage and Stability

The Ber-H2 antibody in lyophilised (absolutely dry) form is stable for many years. In liquid form (following reconstitution) the Ber-H2 antibody is stable for several months when stored at 2-8°C.

Safety Notes

The material contains 0.05% sodium azide as preservative. Although the quantity of azide is very small, appropriate care should be taken when handling this material. Avoid skin and eye contact, inhalation, and ingestion.

Figures

Pictures courtesy of Prof. Dr. Harald Stein, Pathodiagnostik-Berlin, Berlin, Germany

A-B: Immunohistochemistry of human CD30 (Ki-1) in formalin-fixed paraffin-embedded tissue sections.

A: Reaction of CD30-specific antibody clone Ber-H2 in normal non-tumorous lymph nodes: a conglomerate of B-cells encircled by mononuclear non neoplastic CD30 positive cells (red).

B: Classical reaction of CD30-specific antibody clone Ber-H2 with Hodgkin’s lymphoma.

References


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