Anti-CD23 Antibody [PD00-03]

HA721139

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	IHC-P, mIHC, IF-Tissue
Molecular Wt:	Predicted band size: 36 kDa
Clone number:	PD00-03

Description: CD23 (low affinity IgE receptor, Leu-20, FceRII) is a type II integral membrane glycoprotein, 45-60 kDa, and a member of an immunoglobulin supergene family. CD23 is a B-cell-specific antigen and it has essential roles in the regulation of IgE production and in the differentiation of B-cells. In humans, main cellular expression of CD23 is found in B-lymphocytes (strong expression in activated germinal center B-cells, weaker staining of resting mantle zone B-cells), monocytes, follicular dendritic cells (FDCs) predominately in the apical light zone of the germinal center, but also on activated CD4+ T lymphocyte subset, platelets, eosinophils, neutrophils, and Langerhans cells. CD23 is upregulated in Eppstein-Barr infection. CD23 is constitutively expressed by intestinal epithelial cells and its expression is enhanced in enteropathies. CD23 is typically expressed in chronic lymphocytic leukemia (CLL), sometimes in follicular lymphoma, rarely in marginal zone and lymphoplasmacytic lymphoma, but not in mantle cell lymphoma. In CLL, the strongest expression is characteristically present in proliferation centers. It was recently demonstrated that patients with CD23-positive diffuse large B-cell lymphoma have good prognosis. CD23 is also frequently used to demonstrate benign follicular dendritic cells in the background of follicular lymphoma, nodular lymphocyte predominant Hodgkin lymphoma, (intra)follicular T-cell lymphoma and other lymphomas. Together with CD21, CD23 is a marker of rare follicular dendritic cell tumors Some authors demonstrated CD23 expression in epithelial cells of nasopharyngeal carcinoma. In diagnostic pathology CD23 is primarily used in the panel for small B-cell lymphoproliferative disorders. Tonsil is recommended as positive and negative tissue control for CD23. The follicular dendritic cells of the germinal centres must be stained as strongly as possible without any staining reaction of squamous epithelial cells and T-cells in the interfollicular T-zones. In the mantle zone of the follicles, the majority of activated B-cells must show an at least weak to moderate and distinct continuous membranous staining reaction.

Immunogen:	Recombinant protein within human CD23 aa 48 – 321 (Extracellular).
Positive control:	Human tonsil tissue, human lymph nodes tissue, human spleen tissue.
Subcellular location:	Cell membrane, Secreted.
Database links:	SwissProt: P06734 Human
Recommended Dilutions:	
IHC-P	1:200-1:2,000
mIHC	1:800-1:4,000
IF-Tissue	1:200
Storage Buffer:	PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.
Storage Instruction:	Shipped at 4℃. Store at +4℃ short term (1-2 weeks). Store at -20℃ long term.
Purity:	Protein A affinity purified.

Images

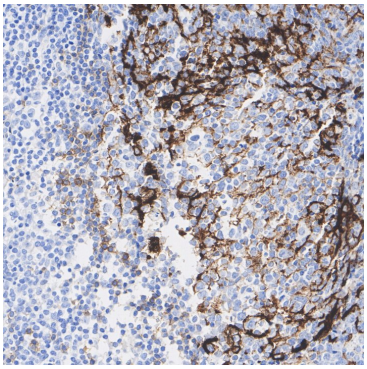

Fig1: Immunohistochemical analysis of paraffin-embedded human tonsil tissue with Rabbit anti-CD23 antibody (HA721139) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721139) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

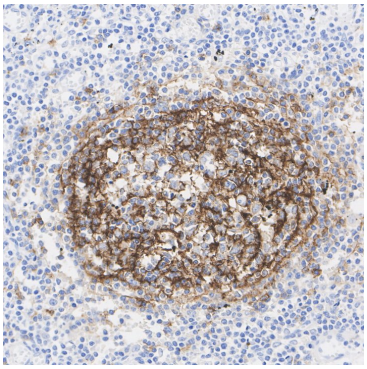

Fig2: Immunohistochemical analysis of paraffin-embedded human lymph nodes tissue with Rabbit anti-CD23 antibody (HA721139) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721139) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

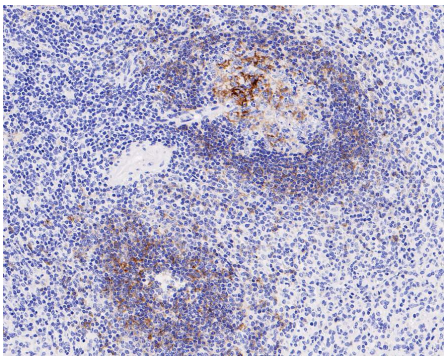

Fig3: Immunohistochemical analysis of paraffin-embedded human spleen tissue with Rabbit anti-CD23 antibody (HA721139) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721139) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

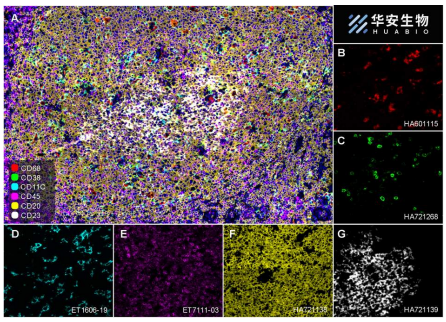

Fig4: Fluorescence multiplex immunohistochemical analysis of Human tonsil (Formalin/PFA-fixed paraffin-embedded sections). Panel A: the merged image of anti-CD68 (HA601115, Red), anti-CD38 (HA721268, Green), anti-CD23 (HA721139, White), anti-CD11C (ET1606-19, Cyan), anti-CD45 (ET7111-03, Magenta) and anti-CD20 (HA721138, Yellow) on tonsil. Panel B: anti-CD68 stained on Macrophage. Panel C: anti-CD38 stained on lymphocyte subsets. Panel D: anti-CD11C stained on dendritic cells. Panel E: CD45 stained on lymphocytes. Panel F: anti-CD20 stained on B cells. Panel G: anti-CD23 stained on follicular dendritic cells. HRP Conjugated UltraPolymer Goat Polyclonal Antibody HA1119/HA1120 was used as a secondary antibody. The immunostaining was performed with the Sequential Immuno-staining Kit (IRISKit™MH010101, www.luminiris.cn). The section was incubated in six rounds of staining: in the order of HA601115 (1/2,000 dilution), HA721268 (1/1,000 dilution), ET1606-19 (1/1,000 dilution), ET7111-03 (1/500 dilution), HA721138 (1/2,000 dilution) and HA721139 (1/800 dilution) for 20 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 30 mins at 95℃. DAPI (blue) was used as a nuclear counter stain. Image acquisition was performed with Olympus VS200 Slide Scanner.

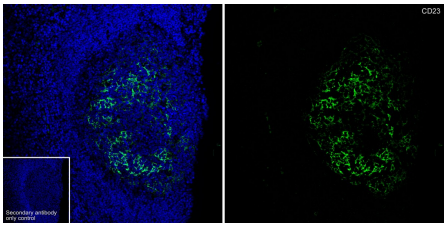

Fig5: Application: IF-Tissue

Species: Human

Site: tonsil

Sample: Paraffin-embedded section

Antibody concentration: 1/200

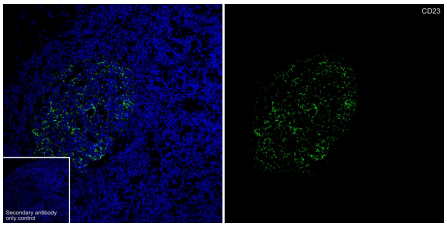

Fig6: Application: IF-Tissue

Species: Human

Site: lymph nodes

Sample: Paraffin-embedded section

Antibody concentration: 1/200

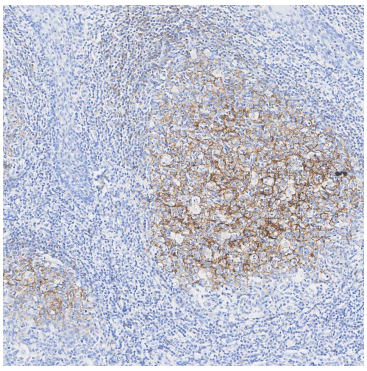

Fig7: Application: Immunohistochemistry (IHC-P)

Species: Human
Tissue: Tonsil
Sample: Paraffin-embedded section

Primary antibody dilution: 1/1,000
Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes
Platform: Leica Biosystems BOND® RX

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Engeroff P. et. al. The role of CD23 in the regulation of allergic responses. Allergy. 2021 Jul
2. Engeroff P. et. al. CD23 provides a noninflammatory pathway for IgE-allergen complexes. J Allergy Clin Immunol. 2020 Jan