abcam

## ab178449

# PE/DyLight™ 594 Anti-CD19 antibody [4G7]

Anti-CD19 antibody [4G7] conjugated to PE/DyLight™ 594 - suitable for flow cytometry, and reacts with human samples. Clone [4G7] is a mouse monoclonal antibody cited in 62 publications.

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## Key facts

| | |
|---|---|
| **Isotype** | IgG1 |
| **Host species** | Mouse |
| **Conjugation** | PE/DyLight™ 594 |
| **Excitation/Emission** | Ex: 565nm, Em: 618nm |
| **Storage buffer** | pH: 7.4 Preservative: 0.1% Sodium azide Constituents: PBS, 0.2% BSA |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | Cell preparation containing CD19 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P15391 |
| **Clone number** | 4G7 |
| **Purification technique** | Size-exclusion chromatography |
| **Specificity** | This antibody recognizes CD19, a 95 kDa type I transmembrane glycoprotein of immunoglobulin superfamily, expressed on B lymphocytes and follicular dendritic cells; it is lost on plasma cells. |
| **Purification notes** | The purified antibody is conjugated with tandem dye PE-DyLight™594 under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use. |

## Reactivity data

## Flow Cyt

### Tested

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| **Species** | Human |
| **Dilution info** | 4 µL for $10^6$ Cells |
| **Notes** | or per 100 µl of whole blood |

## Target data

See full target information CD19

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|---|---|
| **Function** | Functions as a coreceptor for the B-cell antigen receptor complex (BCR) on B-lymphocytes (PubMed:29523808). Decreases the threshold for activation of downstream signaling pathways and for triggering B-cell responses to antigens (PubMed:1373518, PubMed:16672701, PubMed:2463100). Activates signaling pathways that lead to the activation of phosphatidylinositol 3-kinase and the mobilization of intracellular Ca(2+) stores (PubMed:12387743, PubMed:16672701, PubMed:9317126, PubMed:9382888). Is not required for early steps during B cell differentiation in the blood marrow (PubMed:9317126). Required for normal differentiation of B-1 cells (By similarity). Required for normal B cell differentiation and proliferation in response to antigen challenges (PubMed:1373518, PubMed:2463100). Required for normal levels of serum immunoglobulins, and for production of high-affinity antibodies in response to antigen challenge (PubMed:12387743, PubMed:16672701, PubMed:9317126). |

## Storage

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| **Shipped at conditions** | Blue Ice |
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | +4°C |
| **Storage information** | Do Not Freeze, Store in the dark |

## Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

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|---|---|
| **Activity summary** | CD19 is a transmembrane protein also known as B4 or B-lymphocyte antigen CD19 with an approximate molecular weight of 95 kDa. It is expressed on the surface of B cells throughout their development from pro-B cells to mature B cells. CD19 functions mechanically as a coreceptor enhancing the sensitivity of B cell receptor |

| | |
|---|---|
| | (BCR) signaling. This protein plays a significant role in promoting the activation and proliferation of B cells by lowering the threshold for antigen receptor engagement. |
| **Biological function summary** | CD19 acts as an essential player in B cell signaling. CD19 integrates signals from the BCR with other coreceptors acting as a signaling hub. It participates in forming a signaling complex that includes proteins like CD21 and CD81 which further amplifies BCR-mediated signaling. This complex plays a critical role in B cell activation differentiation and survival ensuring that immune responses are efficiently mounted against pathogens. |
| **Pathways** | The CD19 protein fits into key immune response pathways such as the BCR signaling pathway and the PI3K-Akt signaling pathway. CD19 collaborates with other proteins like CD21 CD81 and PI3K within these pathways. Its interaction in the PI3K-Akt pathway for instance supports critical processes including B cell activation and homeostasis contributing to the adaptive immune response. |
| **Associated diseases and disorders** | CD19 is connected to B cell malignancies and autoimmune diseases. B cell acute lymphoblastic leukemia (ALL) often shows aberrant CD19 expression making it a valuable target for therapeutic interventions like anti-CD19 monoclonal antibodies. Additionally overexpression or mutations of CD19 may contribute to autoimmune diseases by disrupting normal B cell regulation. CD19's connection with proteins like CD22 and CD20 in these pathological contexts highlights its relevance in developing targeted therapies. |

## Product promise

**Tested**

We have tested this species and application combination and it works. It is covered by our product promise.

**Expected**

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

**Predicted**

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

**Not recommended**

We do not recommend this combination. It is not covered by our product promise.

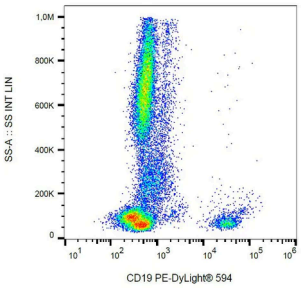
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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## 1 product image




### Flow Cytometry - PE/DyLight™ 594 Anti-CD19 antibody [4G7] (ab178449)

CD19 Flow Cytometry staining using mouse Anti-CD19 antibody

Surface staining of human peripheral blood leukocytes with anti-human CD19 (4G7) PE-DyLight® 594.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.