

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD19 in Western blots.
Source	Monoclonal Rabbit IgG Clone # 2978A
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Chinese Hamster Ovary cell line, CHO-derived human CD19 Met1-Lys291 Accession # P15391
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

Western Blot Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

CD19, also known as B4, is a transmembrane glycoprotein of the immunoglobulin superfamily that plays a central role in B cell activation and humoral immune responses (1, 2). CD19 consists of an extracellular domain (ECD) with two C2-type Ig-like domains, a transmembrane segment, and a cytoplasmic domain with nine tyrosine residues, 3 of which are critical for function (1, 2). Within the mature ECD, human CD19 shares 57% amino acid sequence identity with mouse and rat CD19. CD19 is expressed throughout B cell development from pre-B cells through mature B cells, and it is commonly used as a B cell lineage marker (1, 2). It is required for the responsiveness of mature B cell to antigen stimulation, germinal center development, and antibody affinity maturation (1, 2). CD19 associates with the B cell antigen receptor (BCR), CD81, CD38, CD21, CD22, and IFITM1/CD225/Leu-13 (1, 3). These associations enable CD19 to amplify B cell signaling and reduce the threshold for antigen stimulation through the BCR (1, 3). CD19 polymorphisms and up-regulation can lead to the development of autoimmunity by promoting autoantibody production (2). CD19 has emerged as promising therapeutic target for hematologic cancers and solid tumors, such as leukemias and lymphomas (4, 5). Immunotherapy using a chimeric antigen receptor (CAR) targeting CD19 has emerged as promising therapeutic target for hematologic cancers and solid tumors, such as leukemias and lymphomas (4, 5). The first CD19 CAR T cell therapies have been granted FDA approval for the treatment of B cell malignancies with several more in clinical trials (6).

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.