

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD21 in direct ELISAs and Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human CD21 Ile21-Arg971 Accession # P20023
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 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.

CyTOF-ready	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Flow Cytometry	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	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

CD21, also known as complement receptor 2 (CR2), is a 145 kDa N-glycosylated member of the RCA (regulators of complement activation) family of proteins. The complement cascade plays an important role in the innate immune system through the recognition and clearance of immune complexes and foreign particles (1). Mature human CD21 contains a 951 aa extracellular domain (ECD) with fifteen tandem SCR/SUSHI repeats, a 28 aa transmembrane segment, and a 34 aa cytoplasmic tail (2, 3). Within the ECD human CD21 shares 67% aa identity with mouse and rat CD21. Human CD21 and CD35 are encoded by two separate genes, but in mouse partially homologous proteins are alternate splice forms of one gene (4). Alternate splicing of human CD21 generates isoforms with an altered SCR8 or an insertion between SCR10 and SCR11 (5). CD21 is primarily expressed on B cells, follicular dendritic cells, and T cells. A circulating soluble form of CD21 is released by proteolytic shedding from activated B cells (6, 7). CD21 binds the complement component fragments iC3b, C3d, and C3dg (1, 8). It forms a complex with the B cell receptor-associated CD19 molecule and lowers the threshold for B cell activation (9-11). CD21 can also form complexes with the complement receptor CD35/CR1 (1, 10). Mice deficient in both CD21 and CD35 exhibit normal B cell development but severely compromised germinal center development, antibody production, establishment of protective microbial immunity, and B cell tolerance to self antigens (12, 13). In mice, CD21/CD35 must additionally be present on follicular dendritic cells to mount effective humoral responses and establishment of B cell memory (14). CD21 also binds the gp350 coat protein on Epstein-Barr virus and serves as an uptake receptor for viral infection of B cells (15).

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.