

PRODUCT INFORMATION



CD20 Chimeric Monoclonal Antibody (Clone 10F381 (Rituximab))

Item No. 37157

Overview and Properties

Contents:	This vial contains 200 µg of protein A-affinity purified monoclonal antibody.
Synonyms:	B-lymphocyte Cell-surface Antigen B1, Membrane-spanning 4-domains Subfamily A Member 1
Immunogen:	Human lymphoblastoid cell line SB
Cross Reactivity:	(+) CD20
Species Reactivity:	(+) Human, cynomolgus monkey, rhesus monkey; other species not tested
Uniprot No.:	P11836
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 0.02% ProClin™ 300
Concentration:	1 mg/ml
Clone:	10F381 (Rituximab)
Host:	Chimeric Monoclonal Antibody
Isotype:	IgG1k
Applications:	Flow cytometry (FC); the optimal working concentration/dilution should be determined empirically.

Description

CD20 is a non-glycosylated protein encoded by *MS4A1* in humans.¹ It is composed of four transmembrane domains, a single intracellular loop, and two extracellular loop domains with both the N- and C-termini located in the cytosol. CD20 is a general B cell marker that is expressed from the late pre-B lymphocyte stage but is not expressed by pro-B lymphocytes and is lost in terminally differentiated plasma cells and plasmablasts. It forms supramolecular complexes with CD53, CD81, and CD82, as well as MHCII, CD40, B cell receptors, and C-terminal Src kinase-binding protein (CBP) to contribute to signal transduction. *MS4A1* expression is variable in B cell malignancies, with the lowest expression found in patients with chronic lymphocytic leukemia (CLL) and the highest expression found in patients with diffuse large B cell lymphoma (DLBCL) or hairy cell lymphomas. *MS4A1* expression is enriched on IFN-γ-inducible T-box transcription factor-expressing B cells in blood isolated from patients with multiple sclerosis.² Cayman's CD20 Chimeric Monoclonal Antibody (Clone 10F381 (Rituximab)) was produced recombinantly from the original 10F381 antibody sequence and can be used for flow cytometry (FC). The 10F381 antibody was generated by fusing human IgG1k domains to the antigen-binding domain of a mouse anti-CD20 antibody.³

References

1. Pavlasova, G. and Mraz, M. The regulation and function of CD20: An "enigma" of B-cell biology and targeted therapy. *Haematologica* **105**(6), 1494-1506 (2020).
2. van Langelaar, J., Rijvers, L., Smolders, J., *et al.* B and T cells driving multiple sclerosis: Identity, mechanisms and potential triggers. *Front. Immunol.* **11**, 760 (2020).
3. Reff, M.E., Carner, K., Chambers, K.S., *et al.* Depletion of B cells in vivo by a chimeric mouse human monoclonal antibody to CD20. *Blood* **83**(2), 435-445 (1994).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 02/07/2024

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM