Anti-CD38 Antibody

IRS120MS

Product Type:	Recombinant Chimeric Antibody IgG1, primary antibodies
Species reactivity:	Human
Applications:	mIHC
Molecular Wt:	Predicted band size: 34 kDa

Description: CD38 (cluster of differentiation 38), also known as cyclic ADP ribose hydrolase is a glycoprotein found on the surface of many immune cells (white blood cells), including CD4+, CD8+, B lymphocytes and natural killer cells. CD38 also functions in cell adhesion, signal transduction and calcium signaling. CD38 can function either as a receptor or as an enzyme. [13] As a receptor, CD38 can attach to CD31 on the surface of T cells, thereby activating those cells to produce a variety of cytokines. CD38 is a multifunctional enzyme that catalyzes the synthesis of ADP ribose (ADPR) (97%) and cyclic ADP-ribose (cADPR) (3%) from NAD+. CD38 is thought to be a major regulator of NAD+ levels, its NADase activity is much higher than its function as an ADP-rybosyl-cyclase: for every 100 molecules of NAD+ converted to ADP ribose it generates one molecule of cADPR. When nicotinic acid is present under acidic conditions, CD38 can hydrolyze nicotinamide adenine dinucleotide phosphate (NADP+) to NAADP. These reaction products are essential for the regulation of intracellular Ca2+. CD38 occurs not only as an ectoenzyme on cell outer surfaces, but also occurs on the inner surface of cell membranes, facing the cytosol performing the same enzymatic functions. CD38 is believed to control or influence neurotransmitter release in the brain by producing cADPR. CD38 within the brain enables release of the affiliative neuropeptide oxytocin. Like CD38, CD157 is a member of the ADP-ribosyl cyclase family of enzymes that catalyze the formation of cADPR from NAD+, although CD157 is a much weaker catalyst than CD38. The SARM1 enzyme also catalyzes the formation of cADPR from NAD+, but SARM1 elevates cADPR much more efficiently than CD38.

Immunogen:	Synthetic peptide within human CD38 aa 250-300.
Positive control:	Human tonsil tissue.
Subcellular location:	Membrane.
Database links:	SwissProt: P28907 Human
Recommended Dilutions:	
mIHC	1:100
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). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.
Purity:	Protein A affinity purified.

Images

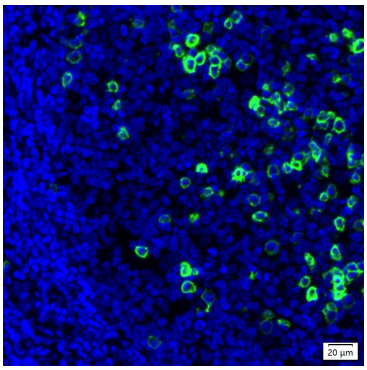

Fig1: mIHC analysis of human tonsil tissue (Formalin/PFA-fixed paraffin-embedded sections) with Mouse anti-CD38 antibody (IRS120MS) at 1/100 dilution. The immunostaining was performed with the IRISKit® HyperView mTSA Kit (MH900206). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 30 mins at 95℃. DAPI (blue) was used as a nuclear counter stain. Image acquisition was performed with Olympus VS200 Slide Scanner.

Background References

1. Guerreiro S et al. CD38 in Neurodegeneration and Neuroinflammation. Cells. 2020 Feb
2. Piedra-Quintero ZL et al. CD38: An Immunomodulatory Molecule in Inflammation and Autoimmunity. Front Immunol. 2020 Nov