

## Anti-Occludin [1-3] Bulk Size Ab04036-10.3-BT

This antibody was created using our proprietary Fc Silent™ engineered Fc domain containing key point mutations that abrogate binding to Fc gamma receptors.

This is a reformatted human IgG1 Fc Silent Fc Silent™ antibody, based on the original human IgG2b format, created for improved compatibility with existing reagents, assays and techniques.

**Isotype and Format:** Human IgG1, Fc Silent™, Kappa

**Clone Number:** 1-3

**Alternative Name(s) of Target:** OCLN

**UniProt Accession Number of Target Protein:** Q16625

**Published Application(s):** Blocking, ICC, in vitro, in vivo, inhibition, IP, TER, ELISA, FC

**Published Species Reactivity:** Rat, Human, Cynomolgus Monkey, Mouse

**Immunogen:** The original antibody was generated by immunizing Wistar rats with a mammalian expression vector encoding hOCLN.

**Specificity:** This antibody is specific for the second extracellular loop (EL2) of OCLN.

**Application Notes:** The cell binding capability of the original format of this antibody (rat IgG2b) was assessed using FC, and its binding to HT1080/hOCLN cells was assessed using a cell-based ELISA. This antibody was found to have no negative effect on tight junction (TJ) barrier function, as determined by a TJ barrier function assay (TER). Furthermore, this antibody was found to have no negative effect on cell viability, as determined by a colorimetric XTT assay. This antibody was found to strongly inhibit (*in vitro*) and fully block (*in vivo*) HCV infections, as measured by ICC (Shimizu et al., 2018; PMID: 29437969). This antibody's  $K_d$  for hOCLN is  $0.580 \pm 0.031$  nM, as measured in a cell-based competition ELISA. This antibody successfully precipitated FLAG-hOCLN proteins found in HT1080 cell lysates and endogenously expressed cellular OCLN found in Caco-2, HepG2, and MCF-7 cell lysates. Furthermore, other TJ proteins expressed in T84 cells — TRIC and ZO-2 — were found to be co-immunoprecipitated with OCLN by this antibody. Immunofluorescence (IF) staining of OCLN using clone 1-3 with a TJ marker protein ZO-1 in Caco-2 cells was co-localized with ZO-1 at cell-cell contact sites. This antibody was found to cross-react with crab-eating monkey (moOCLN), mouse (mOCLN), and rat (rOCLN) as determined by FC (Shimizu et al., 2019; PMID: 31077306).

**Antibody First Published in:** Shimizu et al. Monoclonal Antibodies against Occludin Completely Prevented Hepatitis C Virus Infection in a Mouse Model J Virol. 2018 Mar 28;92(8):e02258-17. doi: 10.1128/JVI.02258-17. Print 2018 Apr 15.

[PMID:29437969](#)

**Note on publication:** The original publication discusses the successful generation of four rat monoclonal antibodies that recognize the extracellular domains of the tight junction protein occludin and the potential use of these antibodies as promising candidates for novel anti-HCV agents.

## Product Form

**Size:** 1 mg Purified antibody in bulk size.

**Purification:** Protein A affinity purified

**Supplied In:** PBS only.

**Storage Recommendation:** Store at 4°C for up to 3 months. Note, this antibody is provided without added preservatives, it is therefore recommended this antibody be handled under sterile conditions. For longer storage, aliquot and store at -20°C.

**Concentration:** 1 mg/ml.

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.