

Anti-CD49B [GBR500 (Vatelizumab, TMC-2206)] Bulk Size Ab04186-13.12-BT

Isotype and Format: Human IgG4-S228P, Kappa

Clone Number: GBR500 (Vatelizumab, TMC-2206)

Alternative Name(s) of Target: ITGA2; Integrin $\alpha 2\beta 1$; Integrin alpha-2/beta-1; Integrin alpha-2; CD49 antigen-like family member B; Collagen receptor; Platelet membrane glycoprotein Ia; GPIa; VLA-2 subunit alpha; BHA2.1; SAR339658

UniProt Accession Number of Target Protein: P17301

Published Application(s): therapeutic, Block, ELISA, FC

Published Species Reactivity: Rat, Human, Rhesus Monkey, Cynomolgus Monkey

Immunogen: The parental mouse antibody was generated by immunizing BALB/c mice with human fibrosarcoma HT1080 cells. The original humanized version was generated by grafting the CDRs of murine parental antibody onto human acceptor framework regions.

Specificity: This antibody binds an epitope in the domain I region of human $\alpha 2$ integrin. This epitope spans a region encompassing amino acid residues, K40, N73, Q89, Y93, R165, and N166 and optionally, other amino acid residues of the $\alpha 2$ integrin I domain. This antibody is also reported to cross react with cynomolgus monkey, rhesus macaque and rat $\alpha 2$ I domains. Integrin alpha-2/beta-1 is a receptor for laminin, collagen, collagen C-propeptides, fibronectin and E-cadherin. It recognizes the proline-hydroxylated sequence G-F-P-G-E-R in collagen. It is responsible for adhesion of platelets and other cells to collagens, modulation of collagen and collagenase gene expression, force generation and organization of newly synthesized extracellular matrix.

Application Notes: The binding of this antibody to recombinant GST-human $\alpha 2$ I domain fusion protein and intact $\alpha 2\beta 1$ integrin was evaluated using ELISA. It was reported that this antibody bound immobilized human $\alpha 2\beta 1$ integrin with a binding affinity in the nanomolar range. The reactivity of this antibody towards $\alpha 2\beta 1$ integrin expressed on blood cells from different species was evaluated by flow cytometry (US7807794). In vitro, this antibody inhibits the binding of PC3 prostate cancer cells to collagen with an EC50 of 0.035 μ g/ml. To study the impact of VLA-2 on extravasation in a PC3-luc metastasis model, this antibody was used to block VLA-2 before injection of tumor cells and by pre-dosing mice with a 50 mg/kg dose i.v. Bi-weekly treatment with this antibody at 5 mg/kg successfully slowed tumor growth and was as effective as bevacizumab 5 mg/kg treatment (Attinger et al., Cancer Research 2011). A study involving orthotopic mouse xenograft model used a DU145-luc cell line and explored the importance of VLA-2 for tumor growth in a physiological setting. It was reported that VLA-2 inhibition leads to modest growth

reduction in subcutaneous xenografts (Hou et al., Mol Cancer Ther 2011). In a phase 2 clinical study in multiple sclerosis patients, the safety and efficacy of this antibody was evaluated. Following treatment with this antibody enhanced frequencies of regulatory T cells (TREG) were reported (PMID: 30783682).

Antibody First Published in: Attinger et al. GBR 500, a monoclonal VLA-2 antibody inhibits tumor and metastasis growth but not extravasation in a prostate cancer animal model . Cancer Res (2011) 71 (8_Supplement): LB-294. [PMID:](#)

Note on publication: This study was done to understand the role of VLA-2 in extravasation and metastasis of prostate cancer cells using an anti-VLA-2 antibody GBR 500.

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.