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Anti-gelatinase B [REGA-3G12] Bulk Size Ab04197-10.0-BT

Isotype and Format: Human IgG1, Kappa

Clone Number: REGA-3G12

Alternative Name(s) of Target: GB; GELB; MMP 9; MMP9; MMP-9; gelatinase MMP 9; 92-kDa gelatinase; matrix metalloproteinase 9; Matrix metalloproteinase-9; neutrophil gelatinase; natural human neutrophil gelatinase B; type V collagenase; 92-kDa type IV collagenase; macrophage gelatinase; 95 kDa type IV collagenase/gelatinase; collagenase IV; collagenase type IV; type IV collagen metalloproteinase; 3G12; 3G12T; 3G12 scFv; 3G12scFv

UniProt Accession Number of Target Protein: P14780

Published Application(s): immunoblot, inhibition, IP, WB, ELISA

Published Species Reactivity: Human

Immunogen: The original antibody was generated by immunizing Balb/c mice with a purified gelatinase B enzyme preparation.

Specificity: This antibody is specific for human gelatinase B; it recognizes the catalytic site region between Trp₁₁₆ and Lys₂₁₄ of the enzyme's globular aminoterminal part. A dimer scFv (with a His₆ tag) variant of this antibody was found to cross-react with gelatinase A.

Application Notes: The specificity of this antibody's original format (mouse IgG1, κ) was evaluated by ELISA; it specifically bound to gelatinase B with a binding affinity of 2.1×10^{-9} M. This antibody detected both native and H₂NPhAcHg-treated gelatinase B in an immunoblot, both in non-reducing and reducing conditions. Furthermore, this antibody was found to inhibit gelatinase B activity *in vitro* (Paemen et al., 1995; PMID: 8575432). The binding of the scFv version of this antibody to gelatinase B was confirmed in an ELISA. The original antibody and its F(ab')₂ and scFv derivatives inhibited gelatinase B *in vitro* (Zhou et al., 1997; PMID: 9323036). The following scFv derivatives of this antibody were evaluated for their inhibitory effect toward gelatinase B: REGA-3G12 scFv with (His₆) monomer (10 μM), REGA-3G12 scFv with (His₆) dimer (5 μM), and REGA-3G12 scFv without a tag (1.25, 2.5, and 5 μM). They achieved 6.5%, 65.9%, 8.8%, 32.4%, and 44.4% inhibitory activity, respectively. Moreover, the scFv His-tag dimer variant was found to cross-react with gelatinase A with a 75% inhibitory activity (same antibody concentration) (Hu et al., 2004; PMID: 15104254). The original format of the antibody was used to detect and characterize the binding of this antibody to gelatinase B via immunoprecipitation (IP) and Western blot (WB), and the catalytic domain in the aminoterminal segment of gelatinase B was identified as its target (Martens et al., 2007; PMID: 17137715).

Antibody First Published in: Paemen et al. Monoclonal antibodies specific for natural human neutrophil gelatinase B used for affinity purification, quantitation by two-site ELISA and inhibition of enzymatic activity

Eur J Biochem. 1995 Dec 15;234(3):759-65. doi: 10.1111/j.1432-1033.1995.759_a.x PMID:8575432

Note on publication: The original publication focuses on the production and characterization of mouse monoclonal antibodies specific for natural human neutrophil gelatinase B.

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.