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Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Anti-CXCL12 [30D8] Bulk Size Ab04215-2.3-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 mouse IgG2a Fc Silent™ antibody, based on the original mouse IgG format, created for improved compatibility with existing reagents, assays and techniques.

Isotype and Format: Mouse IgG2a, Fc Silent™, Kappa
Clone Number: 30D8
Alternative Name(s) of Target: SDF1; SDF-1; Stromal cell-Derived Factor 1; C-X-C motif chemokine 12; C-X-C motif chemokine ligand 12; IRH; PBSF; SCYB12; TLSF; TPAR1; CXCL12α; CXCL12β; CXCL12γ
UniProt Accession Number of Target Protein:
Published Application(s): BLI, Blocking, crystallization, in vitro, in vivo, ELISA
Published Species Reactivity: Rat, Human, Cynomolgus Monkey, Mouse
Immunogen: The original antibody was generated by hyperimmunization of Armenian hamsters with recombinant human CXCL12α.
Specificity: This antibody is specific for CXCL12. In mouse and human, it has been shown to bind CXCL12α, CXCL12β, and CXCL12γ.
Application Notes: The original format of this antibody (Hamster IgG, κ) completely blocked chemotaxis of Jurkat cells elicited by CXCL12α with an average IC_{50} of approximately 0.5 µg/mL (~3 nmol/L). This antibody successfully and specifically blocked CXCL12α binding to CXCR4 and CXCR7, inhibited CXCL12α-induced Rac1 activation in a dose-dependent manner, and effectively suppressed primary tumor growth in mouse lymphoma and Lewis lung carcinoma models. Additionally, 30D8 showed significant inhibition of lung metastasis in a breast cancer model and reduced choroidal neovascularization in a mouse model. In a collagen-induced arthritis mouse model, 30D8 slowed down disease progression and, in combination with anti-TNF antibody, prevented disease advancement, reducing bone-erosive changes. The humanized version of this antibody (hu30D8) demonstrated binding affinity not only to CXCL12α but also to CXCL12β and CXCL12γ in direct ELISA assays. It effectively blocked CXCL12α- and CXCL12β-induced migration of Jurkat cells, displaying an IC50 of 0.16 µg/mL (~1 nmol/L), comparable to its hamster and mouse/hamster chimeric counterparts. Although the exact affinity for binding to hu30D8 could not be reliably determined due to technical limitations, the dissociation constant (KD) was measured as 0.923 and 2.39 nmol/L for human and mouse CXCL12, respectively, using Biolayer Interferometry. The crystal structure of hu30D8 Fab in complex with human CXCL12α was determined. The pharmacokinetic characteristics of 30D8 and

hu30D8 were extensively studied. Both formats displayed rapid clearance following administration, with distinct behaviors in different animal models. 30D8, administered intraperitoneally, exhibited fast clearance in mice yet showed no significant accumulation during prolonged dosing, suggesting consistent clearance over time. Hu30D8, when given intravenously, exhibited rapid clearance in mice but had normal clearance in rats, indicating species-specific differences. Various mutations and epitope interactions were explored: hu30D8D95A, which disrupted a crucial interaction, exhibited significantly slower clearance, emphasizing the impact of epitope interactions on clearance rates (Zhong et al., 2013; PMID: 23812669). The humanized version of this antibody is available on request. Please contact us if interested.

Antibody First Published in: Zhong et al. Development and preclinical characterization of a humanized antibody targeting CXCL12 Clin Cancer Res. 2013 Aug 15;19(16):4433-45. doi: 10.1158/1078-0432.CCR-13-0943. Epub 2013 Jun 28 PMID:23812669

Note on publication: The original publication describes the development and preclinical characterization of a potent humanized antibody, hu30D8, targeting mouse/human CXCL12, demonstrating its efficacy in blocking CXCL12 binding to CXCR4 and CXCR7, inhibiting tumor growth, metastasis, arthritis, and choroidal neovascularization in mouse models, indicating its potential for cancer and inflammation-related disease treatments.

Product Form

Size: 1 mg Purified antibody in bulk size.

Purification: Protein A affinity purified

Supplied In: PBS only.

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