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Quellenstraße 110, A-1100 Wien T. +43(0)1 489 3961-0 F. +43(0)1 489 3961-7 <u>mail@szabo-scandic.com</u> www.szabo-scandic.com



# Anti-Fibronectin [C6] Bulk Size Ab04496-30.11-BT

This is an scFv fragment with a His tag.

This reformatted scFv antibody, based on the original IgG1 format, created for improved compatibility with existing reagents, assays and techniques.

Isotype and Format: scFv fragment (His), ScFv

Clone Number: C6

**Alternative Name(s) of Target:** FN; Cold-insoluble globulin; CIG; EDB; ED-B; B-FN; Extra-domain B fibronectin

UniProt Accession Number of Target Protein: P02751

Published Application(s): in vivo, SPR, WB, ELISA, IHC

#### Published Species Reactivity: Human

**Immunogen:** The original antibody was generated by immunizing BALB/c mice with recombinant FN fragment composed of the type III repeats 7.EDB.8.9.

**Specificity:** This antibody is specific for a cryptic epitope of human fibronectin. The epitope is localized on the fibronectin type III repeat 8, immediately downstream of the angiogenesis-associated extra-domain B, unmasked by its insertion. The specificity of this antibody for the B-FN isoform is due to the E-F loop of the ED-B, whereas the human specificity is due to the B-C loop of III8. In the majority of other mammalian species, there is an E residue instead of D1385, which is sufficient to abolish the interaction.

**Application Notes:** The original version of this antibody (mouse IgG1) was generated and used in ELISA, WB, IHC, SPR, and *in vivo* assays. ELISA analysis showed that the antibody reacts with type-III-repeats-containing FN fragments "7.EDB.8.9" and "7.EDB", and a K<sub>d</sub> of 10 nM was measured in an SPR assay with 7.EDB.8.9 as the antigen. Western blot analysis showed that the epitope recognized by this antibody is located within the type III repeat 8 of FN. IHC analysis showed that this antibody strongly binds human-specific epitopes on repeat III8 of FN in neoplastic tissues. A murine urokinase-type plasminogen activator-conjugated mini-antibody version of the antibody was generated and utilized for *in vivo* tumor-targeting experiments in tumor-bearing mice expressing human B-FN using a radioiodinated mini-antibody. The distribution of the radioiodinated mini-antibody was assessed in tumor tissue and blood at different time points after injection, and the results showed rapid clearance from the bloodstream. Furthermore, the ratio of the percentage of injected dose per gram of tissue (%ID/g) in the tumor versus blood was higher than 10 in all cases, indicating high specificity for tumor tissue (Balza et al., 2009; PMID: 19479996). The reactivity of the scFv version of this antibody with wild-type and mutated fragments of the recombinant FN fragment

EDB-III8 was examined via ELISA. It was found that the epitope of this antibody encompasses both E1329 on ED-B and D1385 on III8 and the simultaneous presence of both residues is required for the reaction; neither of the two residues alone is sufficient to ensure the interaction of this antibody with B-FN (Ventura et al., 2016; PMID: 26867013).

**Antibody First Published in:** Balza et al. A novel human fibronectin cryptic sequence unmasked by the insertion of the angiogenesis-associated extra type III domain B. Int J Cancer. 2009 Aug 15;125(4):751-8. PMID:19479996

**Note on publication:** The original publication unveils a novel cryptic sequence within human fibronectin, unmasked by the insertion of the angiogenesis-associated extra type III domain B, with implications for tumor targeting and angiogenesis research.

## **Product Form**

Size: 500 µg Purified antibody in bulk size.

Purification: Purified by Immobilized Metal Affinity Chromatography

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 recommed 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.