

## Anti-Fluorescein [4-4-20 (enhanced)] Standard Size bAb0168

This antibody is a knob-into-hole bispecific based on murine IgG2a with an Fc Silent™ mutation, featuring one arm with an anti-mouse PD-L1 VHH clone VHH-PD-L1.

This is a bispecific, knob-into-hole heterodimerized antibody, with one arm directed against fluorescein (Fab) and one arm directed against mouse PD-L1 (VHH) based on clone B3.

**Isotype and Format:** Mouse IgG2a mPD-L1 KIH bispecific, Fc Silent™, Kappa

**Clone Number:** 4-4-20 (enhanced)

**Alternative Name(s) of Target:** FL; FII; FITC; Fluorescein isothiocyanate; fluorescein isothiocyanate, isomer 1; Fluorescyl; Resorcinolphthalein; C.I. 45350; solvent yellow 94; D & C yellow no. 7; Angiofluor; Japan yellow 201; Soap yellow; 3',6'-dihydroxyspiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one

**UniProt Accession Number of Target Protein:**

**Published Application(s):** in vivo, negative control

**Published Species Reactivity:** Species independent

**Immunogen:** The original antibody was generated by immunizing BALB/c mice with fluorescein I-keyhole limpet hemocyanin (FII-KLH).

**Specificity:** This antibody is specific for fluorescein I.

**Application Notes:** This antibody, a humanized, enhanced scFv of the original mouse IgG2a antibody, was constructed by grafting the CDRs of the original antibody onto the humanized 4D5 anti-HER2 antibody framework, and subsequently enhancing it with respect to folding and stability via randomization in the form of DNA shuffling, as well as oligonucleotides encoding mutations at defined positions (Jung et al., 1999; PMID: 10556036). The original antibody was tested against FII-BSA. The enhanced antibody fragment was tested against FITC-BSA. This antibody can be used as an isotype control in both *in vitro* and *in vivo* applications. This antibody is not conjugated to fluorescein.

**Antibody First Published in:** Jung et al., Selection for improved protein stability by phage display. J Mol Biol. 1999 Nov 19;294(1):163-80. [PMID:10556036](#)

**Note on publication:** The original publication explores the selection of improved protein stability using phage display, generating mutants of the single-chain Fv fragment variant of clone 4-4-20 and comparing selection strategies under different conditions, ultimately yielding a significantly more stable mutant with 20-fold-enhanced binding properties.

## Product Form

**Size:** 50 µg Purified antibody.

**Purification:** Protein A affinity purified

**Supplied In:** PBS with 0.02% Proclin 300.

**Storage Recommendation:** Store at 4°C for up to 3 months. 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.