Anti-Mouse IgG2b(Fcγ Fragment specific), AlpSdAbs® VHH(iFluor594)

Summary

Code	001-104-008
Immunogen	Recombinant Fc region of mouse IgG2b
Host	Alpaca pacous
Isotype	VHH domain of alpaca IgG2b/2c
Conjugate	iFluor594(Ex: 592nm, Em: 614nm)
Specificity	Mouse IgG2b(Fcγ fragment specific)
Cross-Reactivity	No cross-reactivity with mouse IgG1/2a/3, mouse IgM, rabbit, human, cynomolgus, rat, goat IgG
Purity	Recombinant Expression and Affinity purified
Concentration	0.5mg/mL
Formation	Liquid, 10mM PBS (pH 7.5), 0.05% sucrose, 0.1% trehalose, 0.01% proclin300, 50% glycerol
Storage	Store at –20 °C(Avoid freeze / thaw cycles), Protect from light.

Description

Anti-Mouse IgG2b(Fcγ Fragment specific), AlpSdAbs® VHH(iFluor594) is designed for detecting mouse IgG2b Fcγ fragment specifically, and Anti-Mouse IgG2b(Fcγ Fragment specific), AlpSdAbs® VHH(iFluor594) is useful for super-resolution microscopy. Anti-Mouse IgG2b(Fcγ Fragment specific), AlpSdAbs® VHH(iFluor594) is based on recombinant single domain antibody to mouse IgG2b Fc coupled to iFluor594. Based on immunoelectrophoresis and/or ELISA, Anti-Mouse IgG2b(Fcγ Fragment specific), AlpSdAbs® VHH(iFluor594) reacts with the Fc fragment of mouse IgG2b selectively, no reactivity with other mouse IgG subclasses, mouse IgM, or the Fab portion of mouse immunoglobulins.

Background

VHH are single-domain antibodies derived from the variable regions of heavy chain of Camelidae immunoglobulin. The size of VHH is extremely small(<15KDa) compared to other forms of antibody fragment, which significantly increase the permeability of VHH.
The smaller size of the VHH decreases linkage error and increases staining accuracy effectively. Standard immunodetection approaches use typically a primary antibody (1.Ab) which binds the protein of interest (POI) and a secondary antibody (2.Ab) that binds to the 1.Ab and carries a detection element. The complex formed by the primary antibody and the secondary antibody (1.Ab–2.Ab) is widely used because it is a cost effective and flexible approach since only the 2.Abs need to be coupled to the detection element. However, the use of this complex carries some relevant limitations. The 1.Ab–2.Ab can measure up to 30 nm, leading to a large distance between the targeted molecule and the detection element, causing the so called “linkage” or “displacement” error. While this might not influence the results in some applications (e.g. epifluorescence, ELISA or FACS), it is of major relevance for super-resolution microscopy techniques where the localization precision can be as high as 1 nm. The linkage error can be reduced by using directly labelled small affinity probes like camelid single domain antibodies (sdAbs) also known as nanobodies (Nbs), which have sizes below 3 nm.

Benefits

High lot-to-lot consistency
Increased sensitivity and higher affinity
Animal-free production

Suggested Working Concentration

ELISA	1:10000-1:50000
WB	1:10000-1:50000
ICC/IF	1:200-1:2000
Flow Cyt	1:200-1:2000

Super-resolution microscopy

Dilution factors are presented in the form of a range because the optimal dilution is a function of many factors, such as antigen density, permeability, etc. The actual dilution used must be determined empirically.