Anti-Mouse IgG(H+L), AlpSdAbs® VHH(iFluor647 ×8)

Summary

Code	001-101-009
Immunogen	Recombinant mouse IgG
Host	Alpaca pacous
Isotype	VHH domain of alpaca IgG2b/2c
Conjugate	iFluor647(Ex:651nm, Em:667nm)
Specificity	Mouse IgG(H+L)
Cross-Reactivity	No cross-reactivity with 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 IgG(H+L), AlpSdAbs® VHH(iFluor647 ×8) is designed for detecting mouse IgG(H+L) specifically, and Anti-Mouse IgG(H+L), AlpSdAbs® VHH(iFluor647 ×8) is useful for super-resolution microscopy. Anti-Mouse IgG(H+L), AlpSdAbs® VHH(iFluor647 ×8) is based on recombinant single domain antibodies to mouse IgG(H+L) coupled to iFluor647. Based on immunoelectrophoresis and/or ELISA, Anti-Mouse IgG(H+L), AlpSdAbs® VHH(iFluor647 ×8) detects the heavy chain and light chain of mouse IgG selectively, no reactivity with rabbit, human, cynomolgus, rat, goat IgG.

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

Application notes

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

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.