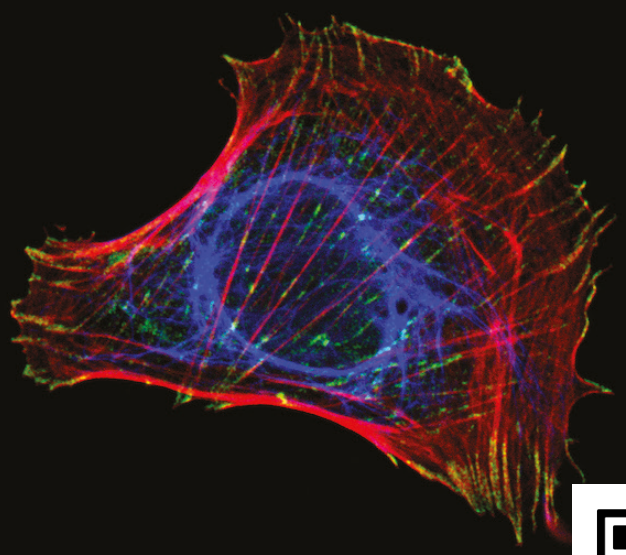
Jackson ImmunoResearch LABORATORIES INC.

AMPLIFY THE DETAIL

AffiniPure-VHH™

Jackson ImmunoResearch AffiniPure-VHH™ Secondaries are a specialized detection reagent that harnesses the unique properties of VHH Fragments to produce high-quality results.



Polyclonal VHH Fragment Antibodies

from Jackson ImmunoResearch

Scan the code to access more information online

Camelid species such as Alpaca and Llama produce a unique class of antibodies composed only of heavy chains. The antigen-binding fragments (Fab), also termed Variable Heavy-Chain only fragment antibodies (VHH Fragments), or nanobodies are an exciting, novel antibody format. With their small 15 kDa size and outstanding specificity and penetration, VHH Fragments offer a fantastic solution for high-quality and high-resolution imaging.

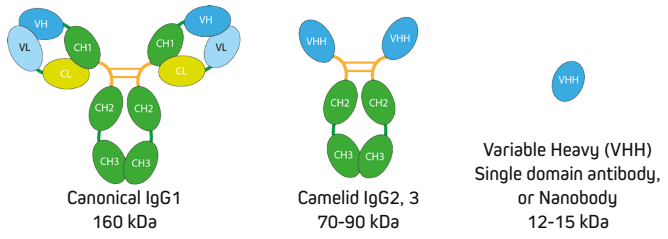


Figure 1. Comparison of conventional IgG with VHH alongside canonical Immunoglobulins, Camelids such as Alpacas make heavy chain only IgGs. The antigen-binding domain (Fab fragment) of IgG2 and 3 do not contain the CH1 domain of the heavy chain and the light chains are also absent. These heavy-chain only Fab fragments are called VHHs or nanobodies.

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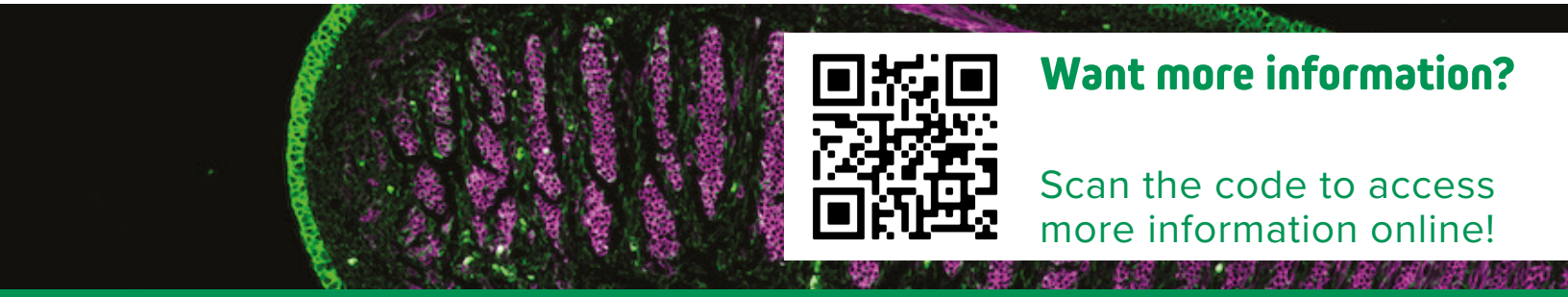
About AffiniPure-VHH™ Secondary Antibodies

Jackson ImmunoResearch AffiniPure-VHH™ are polyclonal single domain antibodies (nanobodies) produced in Alpacas. They are available with specificity to Human, Rabbit or Mouse. Being 10x smaller than conventional whole IgG antibodies, the <15kDa VHH Fragments are perfect for imaging experiments where good penetration is necessary. AffiniPure-VHH™ Secondary antibodies are cross-adsorbed for exquisite specificity against target species with minimal cross-reactivity to other commonly used species, making them suitable for application in multiple labeling experiments. They are available conjugated to a range of fluorescent dyes including Alexa Fluor®, providing scope for high-resolution Immunohistochemistry and Immunofluorescence.

Advantages of AffiniPure-VHH™ Secondary Antibodies

- **Small size means access to higher resolution imaging -** a fifth of the size of conventional antibody complexes AffiniPure-VHH™ secondaries enable higher resolution imaging suitable for characterization of protein conformations, ligand and receptor relationships, and stoichiometries by Single-Molecule Localization Microscopy (SMLM) such as FRET (Förster Resonance Energy Transfer) or TIRF (Total Internal Reflection Fluorescence).
- **Polyclonal means reliable and superior signal -** Polyclonal detection reagents continue to offer the best sensitivity by amplifying signal, even from poorly expressing targets.
- **Cross-adsorbed for better specificity and lower background -** They are cross-adsorbed against commonly used species to reduce background and enhance specificity and can be used in combination to generate multiple labeling images.
- **Excellent penetration and clearance -** due to their small size they can move more freely through the tissue compared to conventional antibodies enabling excellent tissue penetration and clearance without extended incubations.
- **Stain cells, dead or alive! -** Nanobodies, have no Fc fragment and can be used for immunostaining of live cells.
- **Access to an entire spectrum of dyes -** conjugated to fluors from ultraviolet to far-red, AffiniPure-VHH™ secondaries provide maximum flexibility for experiments imaging multiple targets.



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