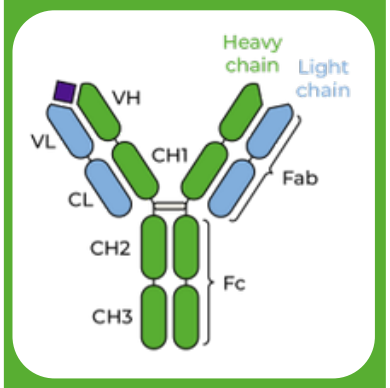
Which antibody format is right for your research?

Sanbio
Part of Europa Biosite

Whole IgG antibody



Structure

Complete antibody with two antigen-binding sites (Fab regions) and and Fc region

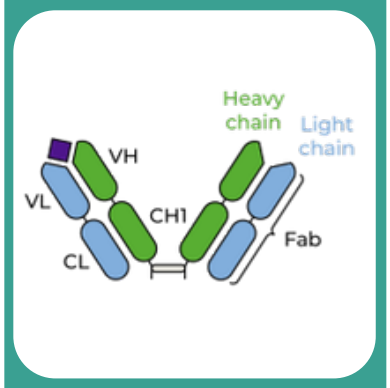
Key features

- Strong signal generation
- Broad application compatibility
- Wide availability
- Straightforward workflows

Applications

- Western blotting
- ELISA
- Immunohistochemistry
- Immunocytochemistry
- Immunofluorescence

F(ab')2 fragment



Structure

Two antigen-binding (Fab) regions linked by a hinge region. Most of the Fc region is removed

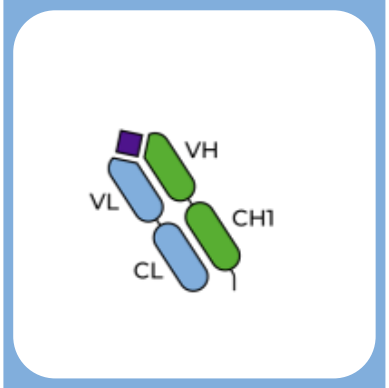
Key features

- Reduced non-specific binding
- Lower background staining
- Maintains strong target recognition
- Reduced Fc receptor-mediated effects

Applications

- Live cell imaging
- Immunostaining
- Flow cytometry and FACS

Fab fragment



Structure

Monovalent antigen-binding arm. Contains the variable & constant region of one Fab & no Fc region

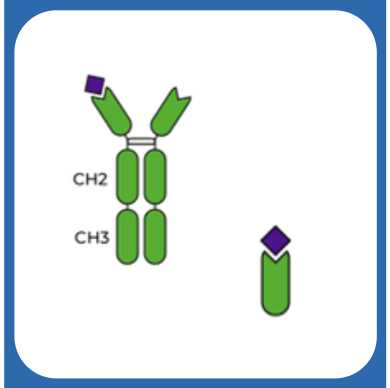
Key features

- Prevents crosslinking
- Smaller size
- Reduced steric hindrance
- Minimises staining artefacts
- Greater control in multiplex assays

Applications

- Blocking studies
- Multiplex immuno-fluorescence
- Sequential staining protocols
- Advanced assay development

Camelid & VHH NANOBODIES®



Structure

Single variable domain derived from heavy-chain-only antibodies found in camelids

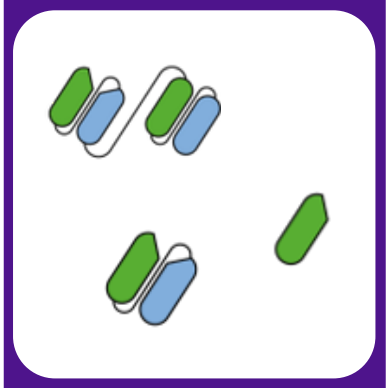
Key features

- Access to hidden epitopes
- Very small (~15kDa)
- Improved tissue penetration
- Enhanced protein localisation
- Higher spatial resolution

Applications

- High resolution microscopy
- High-res immuno-fluorescence
- Imaging in complex or densely packed tissues

Other formats



Structure

Includes single-chain formats (scFv, di-scFv), and Fv fragments

Key features

- Compact and versatile
- Can be engineered for specific applications
- Useful in research, diagnostics and therapeutic development

Applications

- Research & diagnostic tools
- Therapeutic development
- Multiplex assays
- Custom applications

Explore Jackson ImmunoResearch antibodies!

Key takeaways

- There is no single antibody format that suits every application
- The best format depends on your assay requirements, sample type and experimental objectives
- Matching the antibody format to your application can improve performance, minimise artefacts and generate higher quality data

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