chromotek
new tools for better research
part of Proteintech Group

Chromobody® Probes to visualize proteins in live cells

Intracellular fluorescent alpaca antibodies

- **Dynamic live-cell analysis of endogenous proteins**
- **Fast no-wash assay**
- **No overexpression of the protein of interest**
- **No cytotoxicity and artificial effects**

Chromobody

Chromobodies are novel nano probes to visualize endogenous proteins, cellular structures and processes in live cells and at real time.

Applications

- Live cell imaging
- High content analysis of cells, tissues, whole organs (sections) and organisms (sections)
- Investigation of small molecules in secondary screens – either as biomarkers or controls

Advantages

Chromobodies overcome limitations of the current protein visualization methods:

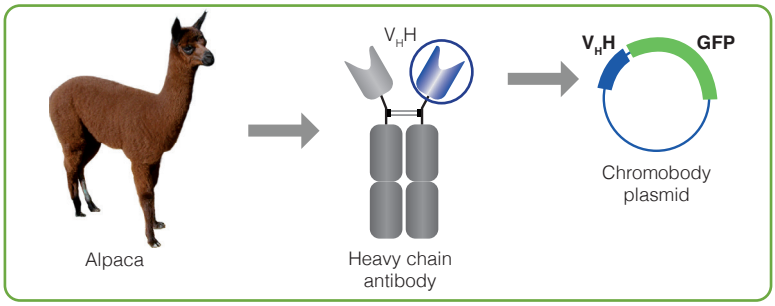
- Antibodies requires cell fixation restricting their applicability to end-point measurements and cannot be used as live cell markers.
- Fluorescent fusion proteins may introduce artificial effects and endogenous proteins remain invisible.

Chromobodies have been carefully tested and bind to their target without interfering with its biological functions.

Technology

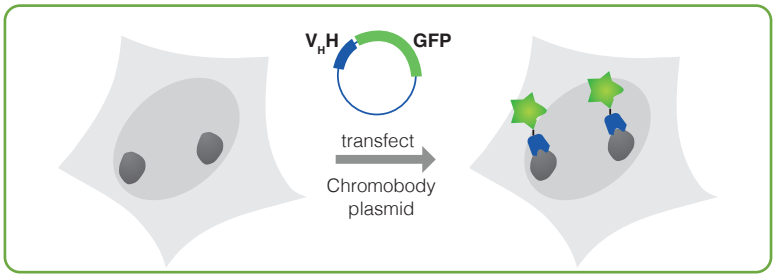
Camelidae, e.g. alpacas, possess a type of antibody called heavy chain antibody. These are devoid of light chains and bind their antigen via a single variable domain (V_HH), also known as a nanobody.

The DNA sequence of these V_HH domains fused to a reporter gene and cloned in a plasmid is sold as Chromobody plasmid.



Chromobody plasmid: DNA-sequence of V_HH fused to a reporter gene, e.g. TagGFP or TagRFP

Upon transfection with Chromobody plasmids, cells start to express Chromobodies within the cytoplasm.



The intracellular expressed Chromobodies bind to the endogenous target proteins.

Chromobodies overcome limitation of current protein visualization

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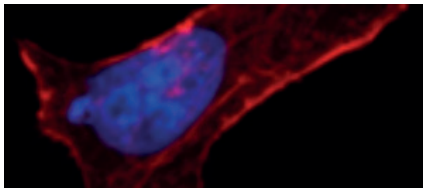
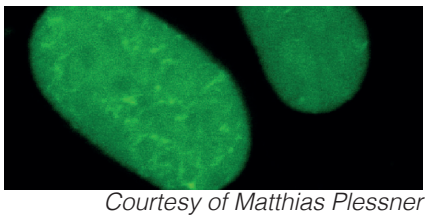
Available Chromobodies

Actin-Chromobody

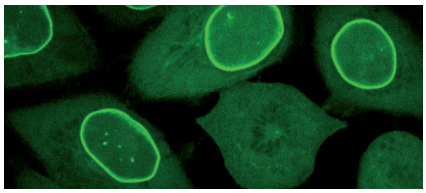


Nuclear Actin-Chromobody

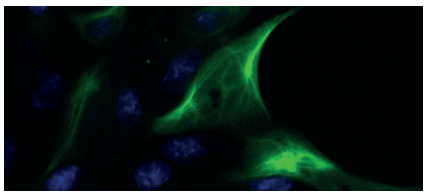


Courtesy of Matthias Plessner

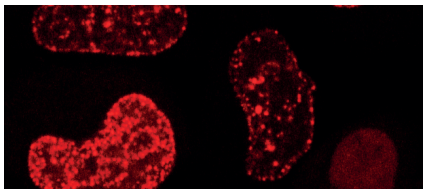
Lamin-Chromobody



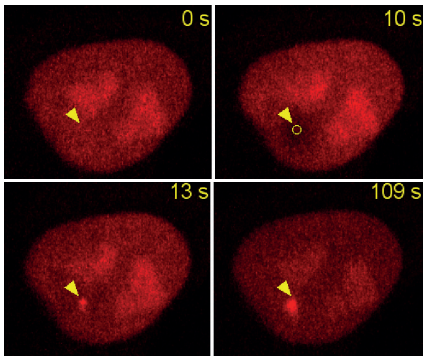
Vimentin-Chromobody



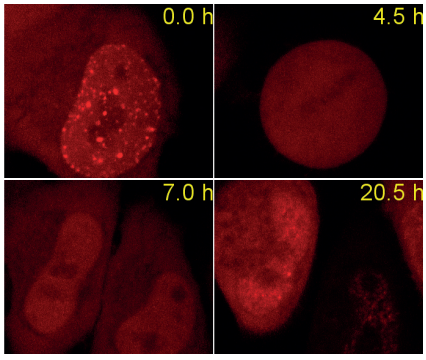
Cell Cycle-Chromobody



PARP1-Chromobody



Dnmt1-Chromobody



Products (for research only)

Plasmids	Reporter	Code
Actin-Chromobody	TagGFP	acg
	TagRFP	acr
Nuclear Actin-Chromobody	TagGFP	acg-n
Lamin-Chromobody	TagGFP	lcg
Vimentin-Chromobody	TagGFP	vcg
Cell Cycle-Chromobody	TagRFP	ccr
PARP1-Chromobody	TagGFP	xcg
	TagRFP	xcr
Dnmt1-Chromobody	TagGFP	dcg
	TagRFP	dcr

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Selected references

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