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new tools for better research

GFP-Booster & RFP-Booster for Microscopy

Stabilize, enhance and reactivate the fluorescent signals of fusion proteins

- **Higher image resolution & excellent performance in IF**
- **Less than 2nm epitope-label displacement minimizes linkage error**
- **1:1 labeling: one fluorophore per GFP/RFP**
- **Monovalent, recombinant single domain antibody fragment (V_HH) from camelid**

Applications

- Epifluorescence wide-field microscopy, ICC, IHC
- Confocal microscopy
- Super-resolution microscopy (e.g. 3D-SIM, PALM, STED or STORM)

Advantages

- Monovalent single domain antibody fragments that do not cluster
- Superior accessibility and labelling of epitopes in crowded cellular environments
- Atto and Abberior fluorophores coupled in a stoichiometry of one fluorophore per Nano-Booster binding one GFP/RFP (1:1:1)
- Consistent and reliable performance due to recombinant production and proprietary protocols

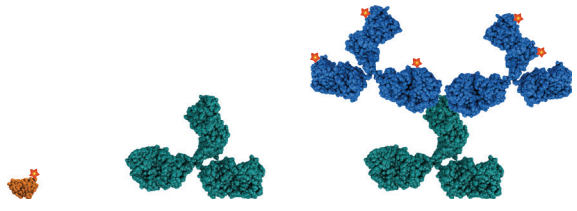
Recognized GFP-Booster targets

- CFP
- eGFP, wtGFP, GFP S65T, AcGFP, TagGFP, tagGFP2, sfGFP, pHluorin, Clover, GFP Envy
- eYFP, YFP, Venus, Citrine

Recognized RFP-Booster targets

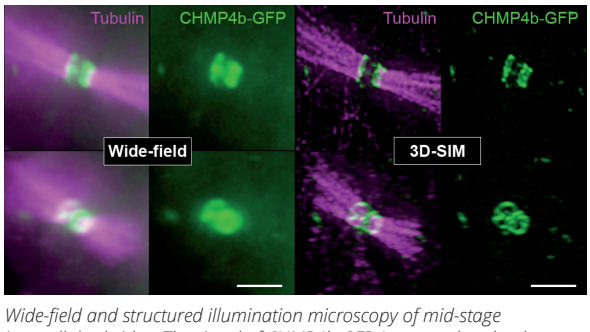
- mRFP, mCherry, mRFPruby, mPlum, PAmCherry

Size comparison



V_HH	IgG	IgG complex
15kDa	150kDa	>300kDa
2nm	15nm	20-30nm

Super-resolution microscopy



Wide-field and structured illumination microscopy of mid-stage intercellular bridge. The signal of CHMP4b-GFP (expressed under the endogenous promoter) is enhanced by the GFP-Booster. Microtubuli are stained with an anti-tubulin antibody (pictures kindly provided by L. Schermelleh).

Available dyes

- GFP-Booster: Atto488, Atto594, Atto647N, Abberior STAR 635P
- RFP-Booster: Atto488, Atto594, Atto647N
- GFP- and RFP-Binding protein for conjugation with alternative dyes

▶ Monovalent Nano-Booster for consistent, effective labelling with minimal fluorophore displacement for super-resolution microscopy

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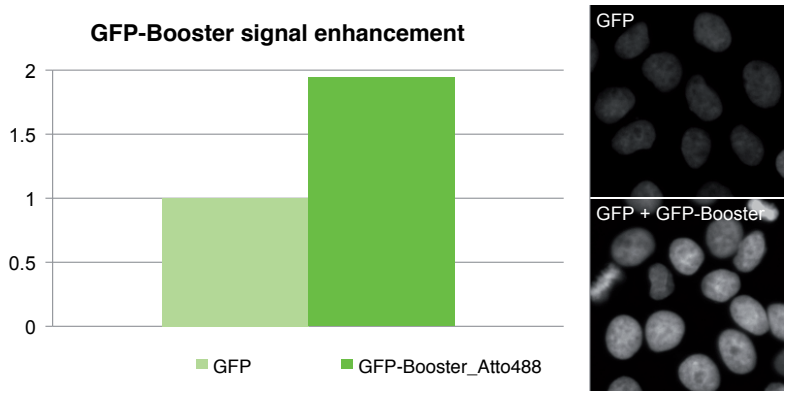
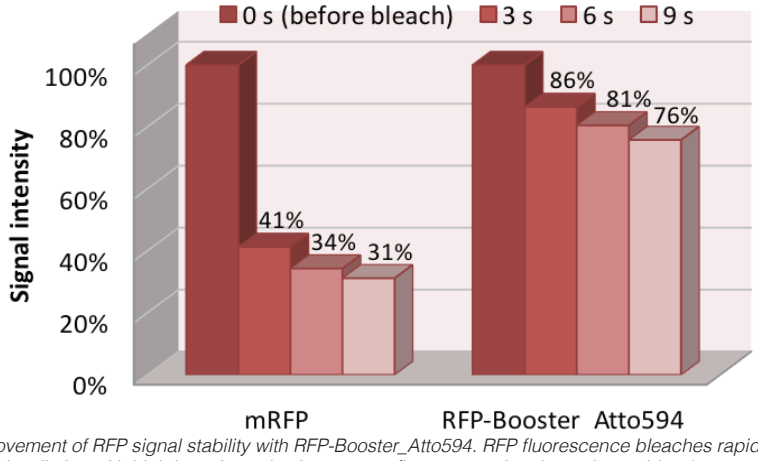
Enhance GFP signals



Enhancement of GFP signal with GFP-Booster_Atto488. Comparison of signal intensity of a cell line stably expressing a nuclear GFP-fusion protein before and after GFP-Booster treatment.

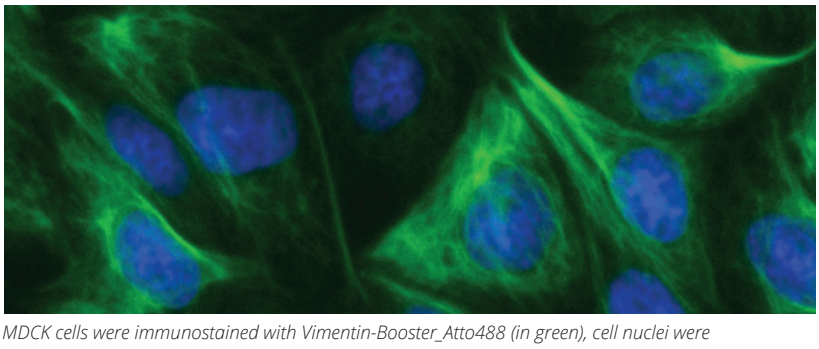
Stabilize RFP signals



Improvement of RFP signal stability with RFP-Booster_Atto594. RFP fluorescence bleaches rapidly upon irradiation with high laser intensity. In contrast, fluorescent signal remains stable when enhanced with RFP-Booster.

Vimentin-Booster

The Vimentin-Booster is ChromoTek's first Nano-Booster for precise labeling of endogenous targets. Due to its small size, the Vimentin-Booster is particularly suitable for super-resolution microscopy of intermediate filaments.
The Vimentin-Booster is coupled to Atto488.



MDCK cells were immunostained with Vimentin-Booster_Atto488 (in green), cell nuclei were counterstained with DAPI (in blue).

Order information

Product name	Size	Code
GFP-Booster_Atto488	10µl	gba488-10
	100µl	gba488-100
GFP-Booster_Atto594	10µl	gba594-10
	100µl	gba594-100
GFP-Booster_Atto647N	10µl	gba647n-10
	100µl	gba647n-100
GFP-Booster_Abberior AS 635P	10µl	gbaAS635p-10
	100µl	gbaAS635p-100
RFP-Booster_Atto488	10µl	rba488-10
	100µl	rba488-100
RFP-Booster_Atto594	10µl	rba594-10
	100µl	rba594-100
RFP-Booster_Atto647N	10µl	rba647n-10
	100µl	rba647n-100
Vimentin-Booster_Atto488	10µl	vba488-10
	100µl	vba488-100
GFP-Binding protein ▶ for conjugation with alternative dyes	250µl	gt-250
RFP-Binding protein ▶ for conjugation with alternative dyes	250µl	rt-250

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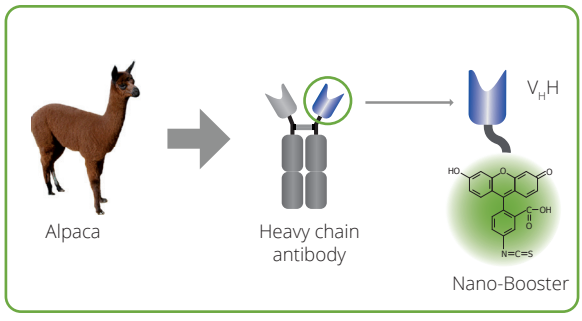
Technology

Beside conventional antibodies, *Camelidae* possess a second type of antibodies, so-called heavy chain antibodies. HcAbs are devoid of light chains and bind their antigen via a single variable domain (V_HH). These V_HH domains are very small, have excellent binding properties and are produced at constant high quality without batch-to-batch variations. Coupled to fluorescent dyes, V_HHs are useful tools in super-resolution, confocal and epifluorescence widefield microscopy.



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