

JAPAN MADE QUALITY

# Zin-Pro Capture

For more information : [http://www.funakoshi.co.jp/exports\\_contents/80849](http://www.funakoshi.co.jp/exports_contents/80849)

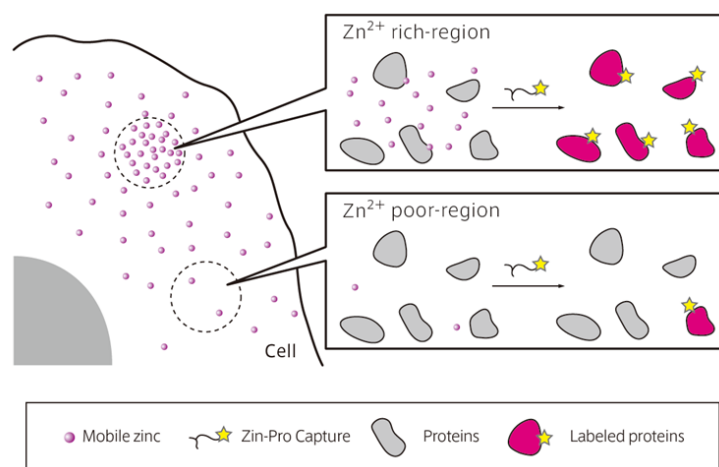
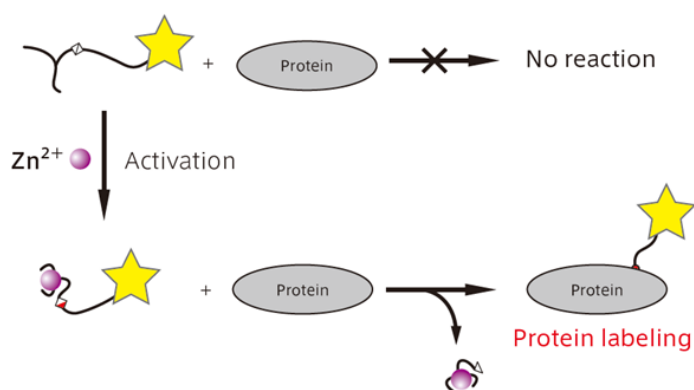
**Zin-Pro Capture** is a chemically labeling reagent of a fluorescein tag to proximal proteins only in the presence of mobile Zn(II) ion. Zin-Pro Capture is useful for analyzing proteins involved in transport kinetics of mobile zinc in the cells.

This product is commercialized by the research result of Professor Hamachi, at Department of Synthetic Chemistry and Biological Chemistry, Graduate School of Engineering, Kyoto University.

Reference : Miki T. *et al.*, *Nat. Methods*, **13**, 931-937 (2016) : A conditional proteomics approach to identify proteins involved in zinc homeostasis

\* In this paper, Zin-Pro Capture is called as AIzin-2.

## Principle of labeling



Zn (II) binds to Zin-Pro Capture and activates it. Activated Zin-Pro Capture is able to label proximal protein immediately.

More proteins in Zn (II) rich region could be labeled than those of in Zn (II) poor region.

Labeled proteins by Zin-Pro Capture are visualized by SDS-PAGE or microscopy as fluorescent signals.

Further more, labeled proteins can be immunoprecipitated by Anti-fluorescein antibody for further analysis.

## Features

- Specific for Zn (II)
- Reactive only in the presence of mobile Zn (II)
- Low cytotoxicity
- Spontaneously incorporated into cells

\* **Zin-Pro Capture is not optimized for live cell imaging.**

## Related Research

- Zinc homeostasis
- Neurodegenerative disorder, related to excessive / deficient of Zinc (e.g. epilepsy, brain damage, Alzheimer disease, brain ischemia, etc...)

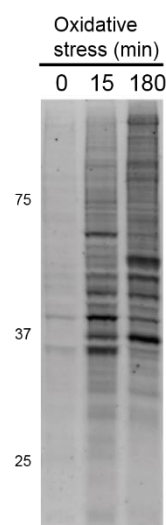
Application	Conventional Zinc-imaging reagents	Zin-Pro Capture
Analyzing total proteins related to zinc homeostasis by IP, MS and WB	×	○
Monitoring zinc-accumulation sites	×	○
Identifying mobile zinc transport proteins	×	○
Finding mobile zinc regulation	×	○
Live cell imaging	○	×
Seeing zinc ion itself	○	×

## Example Data

*in vitro* ischemia model

Cell : C6 glioma

Stimuli : Nitric oxide-based oxidative stress



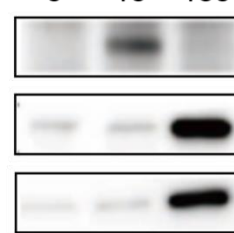
**Purification**  
IP by Anti-Fluorescein

**Identification**  
MS analysis

IP: anti-Fluorescein

Citrate synthase  
Calnexin  
GRP94

Oxidative stress (min)  
0 10 180



Mitochondria  
ER  
ER/ERGIC

**Quantitative/Kinetic study  
Western blotting**

Zin-Pro Capture reveals mobile zinc under oxidative stress

- transiently transported into mitochondria
- accumulated in ER and ER-Golgi intermediate compartment (ERGIC).

## Product Information

[ Manufacturer : FNA ]

Product Name	Code	Size	Storage
Zin-Pro Capture	FDV-0013A	25 µg	-20°C
	FDV-0013B	3 x 25 µg	

NOTE

※ All products shown here are for research use only, not for diagnostic use.  
※ Specs might be changed for improvement without notice.

※ Company name and product name are trademark or registered mark.  
※ Please contact your local distributors for orders, quote request and inquiry.

Your Local Distributor

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