

## 79464 pIMAGO®-biotin Phosphoprotein Detection Kit, for Western Blot, Fluor 800-based detection (40 mini blots)

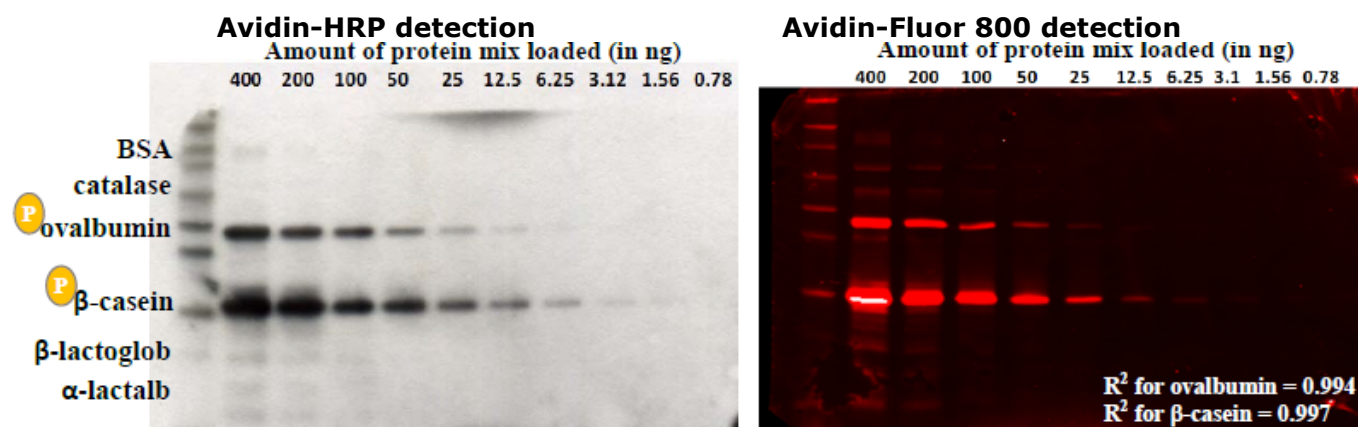
Storage Temperature 2-8°C

### Introduction

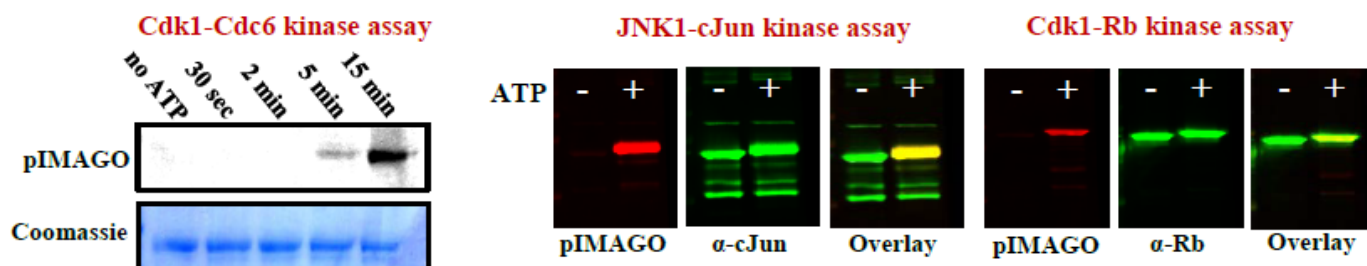
pIMAGO® is a universal phosphoprotein detection technology that enables sensitive and specific recognition of phosphorylated molecules. Unlike phospho-antibodies, the binding is not biased by amino acid sequence, and therefore can be used for detection of any phosphorylation event on any protein site. pIMAGO® detection protocol resembles a simple Western Blot procedure and can be easily incorporated by any laboratory.

### Results

pIMAGO® analysis of 6 protein mixture (2 phosphoproteins) avidin-HRP or avidin-Fluor detection.



pIMAGO® analysis of *in vitro* kinase assays using avidin-HRP (left) or avidin-Fluor (right) detection.



### Kit components

400 µL of pIMAGO® reagent  
400 µL of avidin-Fluor 800  
2 mL of 5x IAA  
80 mL of 10x Blocking buffer (need to dilute to 1x with DI water)  
80 mL of 5x pIMAGO® buffer (need to dilute to 1x with DI water)  
240 mL of 10x Washing buffer (need to dilute to 1x with DI water)  
400 µL of control phosphoprotein (□-casein) in LDS sample buffer (load 10 □l in a well)  
Need to prepare: 1x TBST (Tris-buffered saline with 0.1% Tween 20)



## Protocol

1. Before running the gel, boil the samples in SDS/DTT and let them cool down to room temp. Add **5x IAA** solution to a 0.5x-1x final concentration directly to the samples and incubate in the dark for 15 min (this step is optional but can improve detection specificity). Load the samples onto a gel. Load one well with 10  $\mu$ L of the provided phosphoprotein as a positive control (load as is, no need to boil).
2. Run your samples and transfer onto a membrane (Tris-glycine transfer buffer provides the cleanest results).

\*If it is desired to do fluorescent-based detection, use a special membrane with low autofluorescence.\*

*Important Note: In many cases, the transfer system itself might contain contaminants, increasing the nonspecific background signal. To reduce this, we strongly recommend including a second piece of membrane before the gel to bind any of these contaminants (suggested set-up: filter-membrane-gel-membrane-filter). Not necessary for nitrocellulose.*

3. Block the membrane for 1hr with a 1x **Blocking buffer** (e.g. 10 mL for a mini blot; this step can also be carried out overnight at 4°C).
4. Prepare 1:1,000 mixture of **pIMAGO reagent** in **1x pIMAGO buffer** (e.g. 10  $\mu$ L pIMAGO in 10 mL pIMAGO buffer for mini gel). Mix and add to the membrane, incubate 1 hour.
5. Wash the membrane 3 times with 10-20 mL of **1x Wash buffer** and once with **1x TBST** (5 min each wash).
6. Prepare 1:1,000 mixture of **avidin-HRP** or **avidin-Fluor** in the **1x Blocking buffer** (e.g. 10  $\mu$ L avidin reagent in 10 mL of blocking buffer for mini gel). Mix and add to the membrane, incubate 1 hour.
7. Wash the membrane 3 times with **1x TBST** (5 min each wash).

Detect the signal as usual using scanner or HRP chemiluminescence substrate. (Typically, do not need to expose the film for more than 1-2 min to avoid high background; no need to dry the membrane for fluorescence detection).

Note: For nitrocellulose membrane, it is sometimes observed that HRP might go through ECL substrate too fast and no signal is detected. In this case, rinse the membrane with TBST and add more ECL substrate for repeat detection.

## References

"Chemical visualization of phosphoproteomes on membrane". Iliuk, A.; Liu, X. S.; Xue, L.; Liu, X.; Tao, W. A., *Molecular and Cellular Proteomics* **2012**, 11, 629-639. doi: 10.1074/mcp.O112.018010

## Legal Information

pIMAGO® is a registered trademark of Tymora Analytical Operations, LLC

## Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

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