



## Anti-Peroxiredoxin IV (3A1)

**Background :** Peroxiredoxin (Prx) is a growing peroxidase family, whose mammalian members have been known to connect with cell proliferation, differentiation, and apoptosis.

Many isoforms (about 50 proteins), collected in accordance to the amino acid sequence homology, particularly amino-terminal region containing active site cysteine residue, and the thiol-specific antioxidant activity, distribute throughout all the kingdoms. Among them, mammalian Prx consists of 6 different members grouped into typical 2-Cys, atypical 2-Cys Prx, and 1-Cys Prx. Except Prx VI belonging to 1-Cys Prx subgroup, the other five 2-Cys Prx isotypes have the thioredoxin-dependent peroxidase (TPx) activity utilizing thioredoxin, thioredoxin reductase, and NADPH as a reducing system. Mammalian Prxs are 20 – 30 kilodalton in molecular size and vary in subcellular localization: Prx I, II, and VI in cytosol, Prx III in mitochondria, Prx IV in ER and secretion, Prx V showing complicated distribution including peroxisome, mitochondria and cytosol.

### Background Reference :

- (1) Wood, Z. A. et al. (2003) *Trends Biochem Sci.* **28**(1):32-40
- (2) Rhee Sue Goo et al. (2001) *IUBMB Life.* **52**:35-41

### Species cross reactivity

Human	Mouse	Rat
+	-	-

**Immunogen :** Recombinant human fragment protein (without secretion leader sequence) purified from *E.coli*

### Applications :

Immunoprecipitation (1-2ul/400ul lysates)  
Immunocytochemistry (20ul/ml)

**Host :** Mouse

**Isotype :** IgG1, k

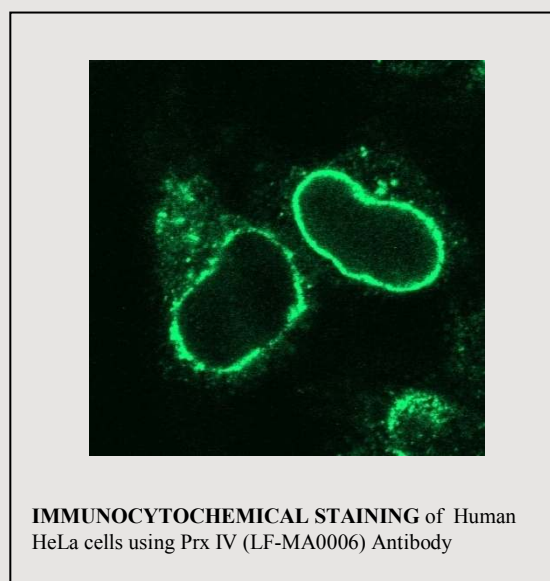
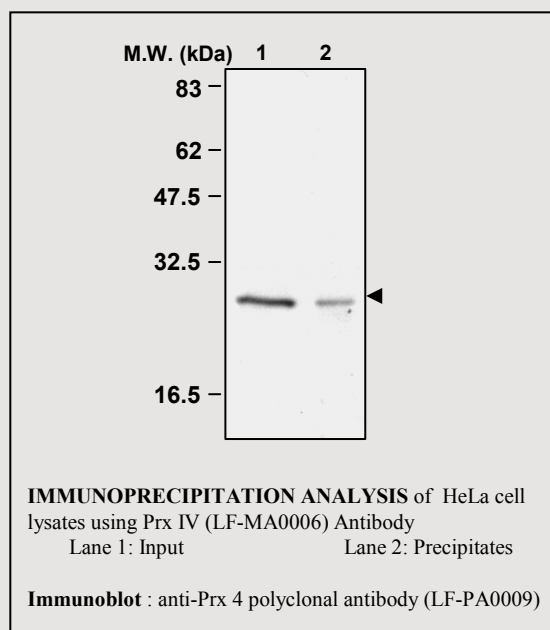
**Clone number :** 3A1

**Composition :** PBS containing 50% glycerol

**Positive control :** HeLa cell lysates

**Size :** 100ul

**Storage :** Store for 1 year at -20°C from date of shipment



## Immunocytochemistry Protocol

### Fixation

- Cells were cultured on coverslips.
- Immerse coverslips in 4% paraformaldehyde for 40 minutes at room temperature.
- Wash coverslips with 1xPBS 2 times.
- Quench cells in 50mM  $\text{NH}_4\text{Cl}$  for 10 minutes at room temperature.
- Aspirate off completely.
- Wash the coverslips with 1xPBS 2 times.
- Aspirate off completely.
- Permeabilize cells on coverslips with 0.2% triton X-100 for 10 minutes at room temperature.

### Blocking

- Block all coverslips with blocking solution for 30 minutes at room temperature.

### Staining

- Incubate with primary antibody in blocking solution for 1 hour at room temperature.
- Wash all coverslips with blocking solution for 10 minutes 3 times.
- Incubate all coverslips with a dilution of the Alexa green conjugated secondary antibody in blocking solution.
- Wash all coverslips with 1xPBS for 10 minutes 3 times.

### Mounting and Observation

- Mount coverslips on slides.
- Store slides at room temperature in the dark.
- Evaluate with fluorescence microscope.

**\* Blocking Solution : 2% BSA in PBS**

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