

# LuminolPen™, HRP System



Cat No. LH03-50

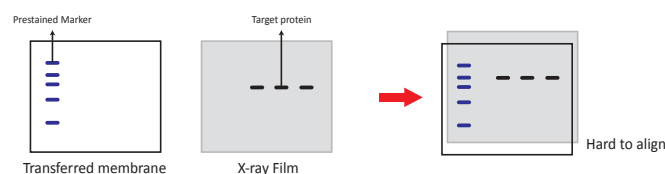
LuminolPen™, HRP System is designed to overcome the limitation of pre-stained protein marker in aligning Western blots. Using LuminolPen, the position of the pre-stained marker can be easily visualized in a chemiluminescence-based Western blot experiment. Therefore, researchers can observe the position of the prestained marker and the protein signals simultaneously on a single image.

## Western blot

Western blot is currently the most utilized technique in life science research. After the electrophoresis, gel proteins are transferred onto the nitrocellulose or PVDF membranes then probed with specific primary antibodies and enzyme-conjugated secondary antibodies. To monitor membrane transfer efficiency or estimate molecular weights of the target proteins, the pre-stained protein molecular weight standard marker (pre-stained marker) is always loaded in parallel with protein samples during electrophoresis.

## Problems regarding chemiluminescent detection in Western blot

Chemiluminescent detection has been an increasing trend in Western blot experiments. Compared to the conventional colorimetric detection procedures, it has 10 to 100-fold lower detection limit. Generally, after dispensing the enhanced chemiluminescent substrate onto the transferred membrane, the chemiluminescent signals can be either captured by X-ray films or imaging acquisition systems. However, the pre-stained marker will not be developed because the marker proteins will not be hybridized with most primary and secondary antibodies. Many laboratories align the developed images on film with the transferred membrane to indicate the position of marker. However, this procedure is tedious and often causes estimation bias.



## Three advantages of the LuminolPen™, HRP System

### 1. Observe your pre-stained marker in WB experiments

After chemiluminescent development, the position of pre-stained marker marked by LuminolPen™ can be visualized and recorded for further evaluation. Molecular weight of the target proteins can be easily estimated.

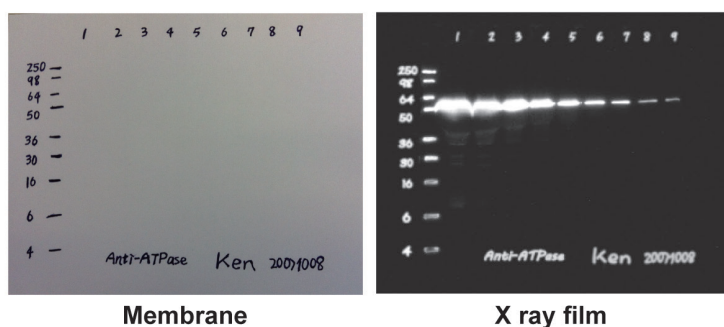
### 2. Quality control (QC) your chemiluminescent substrate

LuminolPen™ can be taken as an internal control to ensure the chemiluminescent substrate you use is still functional. Signals from the area marked by LuminolPen™ indicate that the chemiluminescent substrate is functional.

### 3. Take notes where necessary

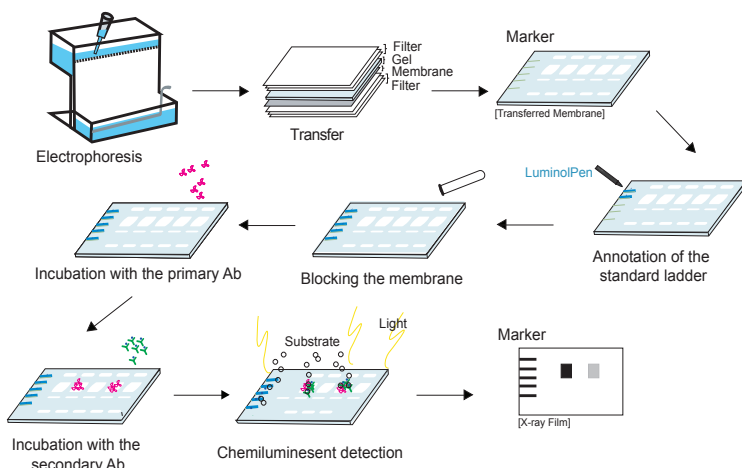
You can use LuminolPen™ to make your experimental notes on the transferred membrane. The blue ink allows researchers to easily mark (1) the pre-stained marker, (2) the lane numbers and (3) other important experimental parameters.

## Notes shown on the X-ray film after Chemiluminescent detection



Label the molecular weight and take notes on the membrane with LuminolPen™, HRP System.

## Application of the LuminolPen™, HRP System



After transferring gel proteins onto the nitrocellulose or PVDF membranes and before the procedure of blocking, use the LuminolPen™ to annotate the pre-stained marker and perform the following hybridization procedures.