UltraScence Femto Plus Western Substrate Powder

25 FEB 2025

Catalog Number		Size	Format
CCH375-P10L	UltraScence Femto Plus Western Substrate Powder	5 L x 2	Powder

Storage Conditions

Upon receipt make the ECL powder form into liquid form. It could be stable for up to 24 months at 4°C.

Description

The UltraScence Femto Plus Western Substrate Powder, as a luminol-based enhanced chemiluminescent substrate, is sensitive and compatible with conducting immunoblots with horseradish peroxidase (HRP) – conjugated secondary antibodies. The mid femtogram to low femtogram detection detection of antigen is enabled by UltraScence Femto Plus Western Substrate' s excellent sensitivity and long signal duration. Further, its long chemiluminescent signal duration makes both digital and film-based imaging possible without any loss of the signal. Appropriate primary and secondary antibody dilutions are suggested for attaining optimal signal intensity and duration.

- Ready-to-ship and significantly longer shelf life in the powder form!
- Significant reductions in transportation and storage costs, resulting in less carbon footprint!
- Empower custom production anywhere in the world!
- Significantly more sensitive than leading manufacturers on the market

Kit Content(s)

Catalog Number	Size	Format
CCH375-P05LA	5 L x 1	Powder/ bag
CCH375-P05LB	5 L x 1	Powder/ bag

Required materials but not provided

- A compatible Chemiluminescence or X-ray Imaging Systems
- A plastic sheet protector or plastic wrap to prevent the membrane from drying

Instrument Compatibility

This western substrate is compatible with the majority of commercially available Chemiluminescence and X-ray Imaging Systems.

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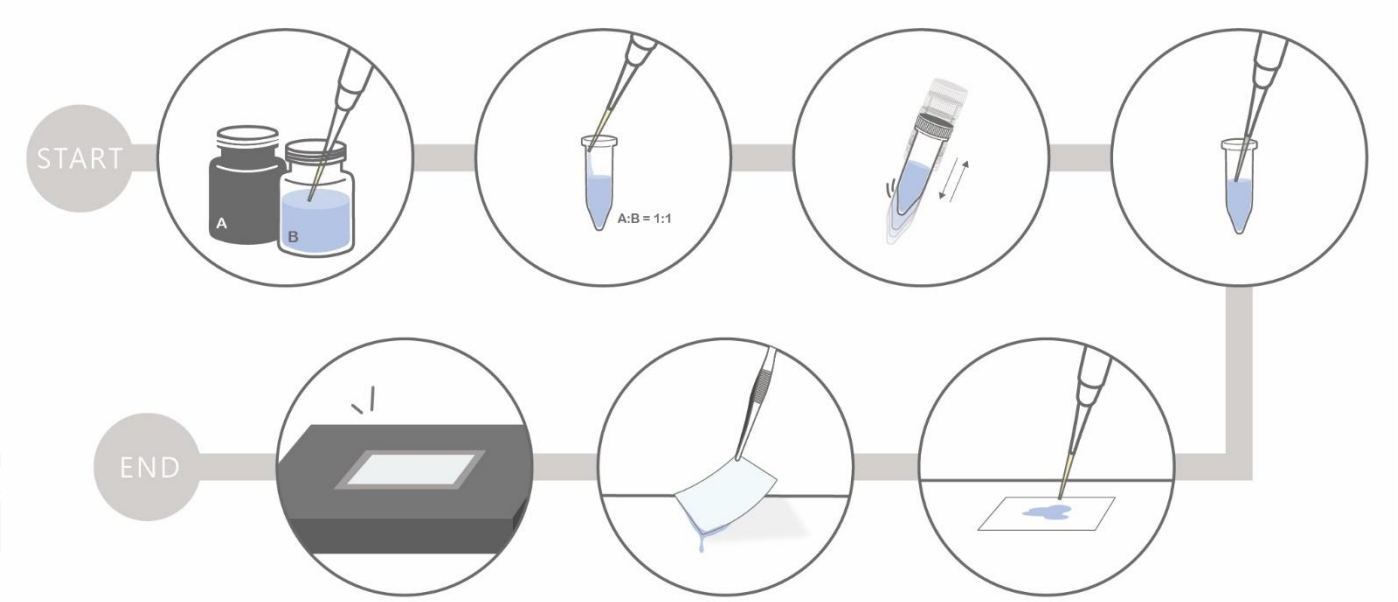
Powder dissolution

1. Prepare two 5L bottles. One amber bottle is for luminol solution, and other normal bottle is for peroxide solution. (Make sure the bottles are acid and alkali resistant.)
2. Unpack the bag and pour all the powder in bottle.
3. Rinse residual luminol powder in bag with 10% (v/v) ethanol solution. Add 10% (v/v) ethanol solution to 5L for luminol solution.
4. Rinse residual peroxide powder in bag with deionized water. Add deionized water to 5 L for peroxide solution.

Reaction Setup

1. Keep the membrane moist in the wash buffer while preparing the substrate mixture. Please ensure the membrane does not dry out during the subsequent steps.
2. Mix Luminol solution and Peroxide Solution in a 1:1 ratio, and thoroughly agitate the chemiluminescent substrate solution well for preparing the 0.1 ml of solution / cm^2 of membrane.
   - For a mini-sized membrane (7 x 8.5 cm), 4 ml of solution is sufficient.
   - For a midi-sized membrane (8.5 x 13.5 cm), 10 ml of solution is sufficient.
3. Place the membrane with the protein side up on a clear and level surface or in a clean container.
4. Remove the membrane from the chemiluminescent substrate solution and drain off excessive solution.
5. Place the membrane in a plastic sheet protector or in plastic wrap to prevent the membrane from drying.
6. Image the membrane with a digital imager or by exposing to the X-ray film.



Important notes

UltraScence ECL substrates series is compatible with the use from low picogram to low-femtogram level detections. Please kindly refer to the ECL selection guide of UltraScence Western substrate as the below table.

Bio-Helix Western Substrates	Advantages for you	Sensitivity	Significantly Comparable Performance with
UltraScence Pico Plus Western Substrate CCH321-B100ML	**Best value** for entry-level Western Substrates with detecting the abundant proteins.	low picogram to high femtogram	-Thermo Scientific™ Pierce ECL Substrate -Thermo Scientific™ SuperSignal™ West Pico PLUS -CYANAGEN WESTAR NOVA 2.0 -Advansta WesternBright™ ECL -Abcam High Sensitivity ECL Substrate Kit
UltraScence Pico Ultra Western Substrate CCH345-B100ML	**Better choice** for seeking lower abundance proteins, over **30 times** sensitivity than UltraScence Pico Plus Western Substrate.	low picogram to mid femtogram	-Millipore™ Immobilon™ Western Substrate -FUJIFILM Wako ImmunoStar Zeta -Cytiva Amersham ECL Prime -Advansta™ WesternBright™ Quantum™ -Abcam Very High Sensitivity ECL Substrate Kit -CYANAGEN WESTAR ETA C ULTRA 2.0 -Thermo Scientific™ SuperSignal™ West DURA
UltraScence Femto Plus Western Substrate CCH375-B100ML	**Born to seek**, seeking less abundance proteins in your Western Blot, even low femtograms.	mid femtogram to low femtogram	-FUJIFILM Wako ImmunoStar LD -GeneTex Trident femto -Thermo Scientific™ SuperSignal™ West Femto -Advansta™ WesternBright™ Sirius™ -Abcam Ultra High Sensitivity -CYANAGEN WESTAR SUPERNOVA -Cytiva Amersham™ ECL Select™
UltraScence Atto Western Substrate CCH385-B100ML	**Break the record**, providing the most sensitive and brightest protein signal for your Western Blot.	Low femtogram to high attogram	-CYANAGEN WESTAR HYPERNOVA -Thermo Scientific™ SuperSignal™ West Atto

Troubleshooting

Problem	Cause	Solution
High Background	Overconcentrated primary or secondary antibody	*Decrease the antibody concentration.
		*Perform a dot blot to optimize the concentration.
	Insufficient wash	*Increase the frequency or duration.
	Incomplete blocking	*Decrease the antibody concentration.
		*Perform a dot blot to optimize the concentration.
No Reaction or Weak Signal	Insufficient antigen binding	*Decrease antibody concentration. *Optimize blocking reagents for achieving a balance between sensitivity and specificity.
	Poor antibody binding to the antigen	*Optimize detergent used for antibodies. *Increase the antibody incubation time.
No Reaction or Weak Signal	Proteins washed from the membrane during assay	*Reduce the number or intensity of wash
	Insufficient reagent volume	*Apply additional volumes of antibody blocking reagent, or wash solution.