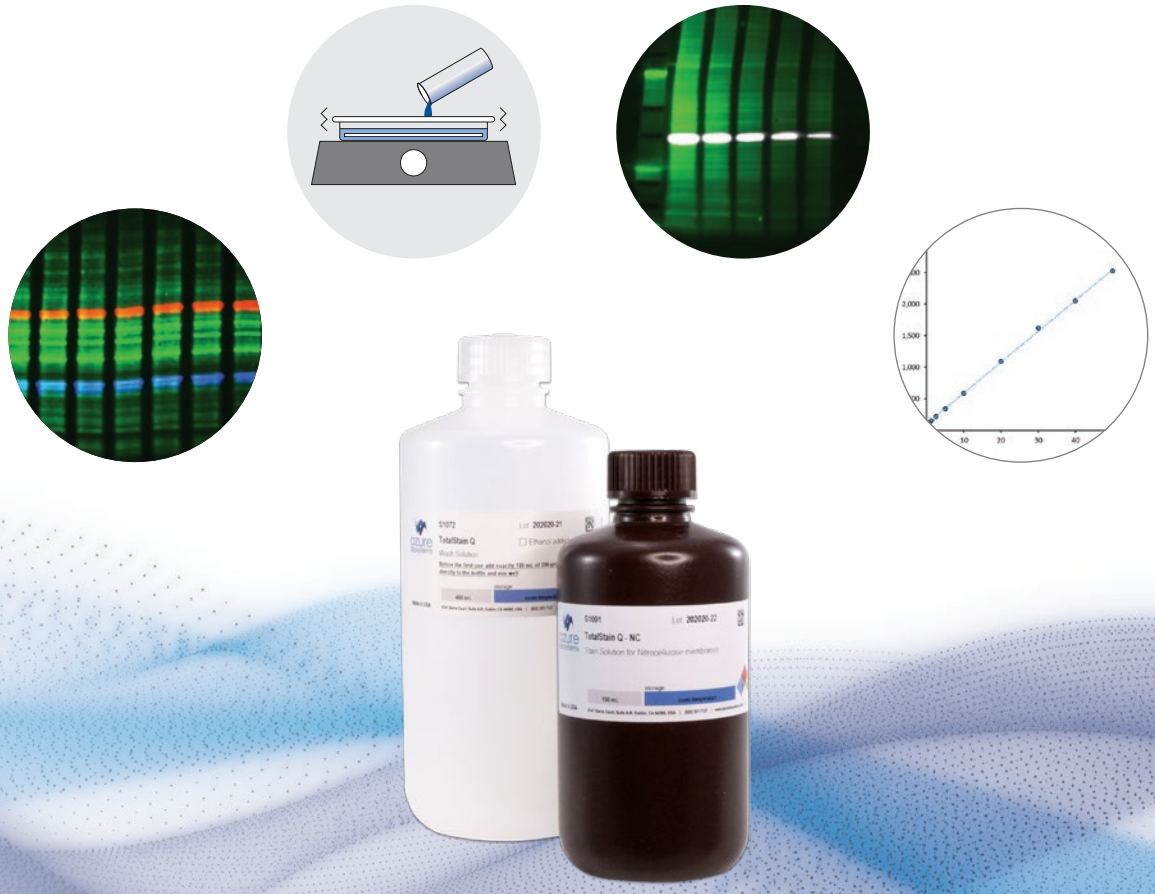
Total Protein Stains

TotalStain Q | AzureRed | Azure Ponceau Stain



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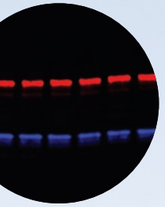
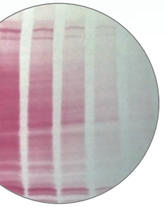




Total Protein Stains

The Azure Biosystems' Fluorescent Total Protein Stain reagents are suitable for sensitive detection of proteins in membranes and gels.

For accurate quantitative Western Blots, it is critical to perform band normalization to account for both sample loading and transfer efficiency variability. Currently, TPN is becoming the standard for band normalization and the preferred method suggested in top tier journals.

TotalStain Q

- Fluorescent reagent for Total Protein Normalization (TPN) of cell lysates in WB
- Suitable for quantitative transfer efficiency verification

AzureRed

- Fluorescent Stain for TPN in Western Blots of biological fluids with low protein concentration
- Sensitive and convenient fluorescent detection for 1-D and 2-D protein gels

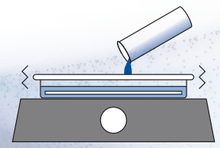
Azure Ponceau Stain

- Stain for visual transfer efficiency verification

NON-TOXIC AND CONVENIENT

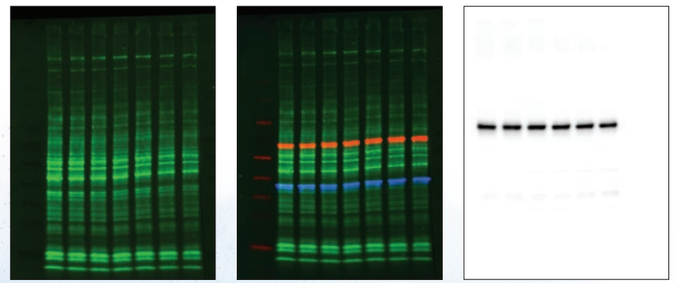
Stains for easy dying of your assays in two main steps:

1. Short immersion in Staining Solution
2. Short immersion in Working Washing Solution



COMPATIBLE

Compatible with downstream near-infrared (NIR) fluorescent and ECL western blot immunodetection

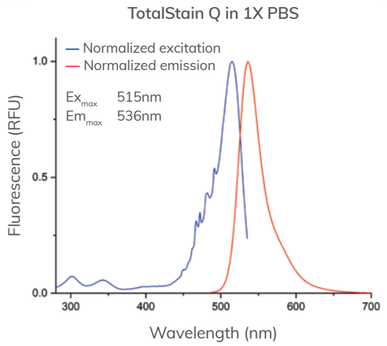


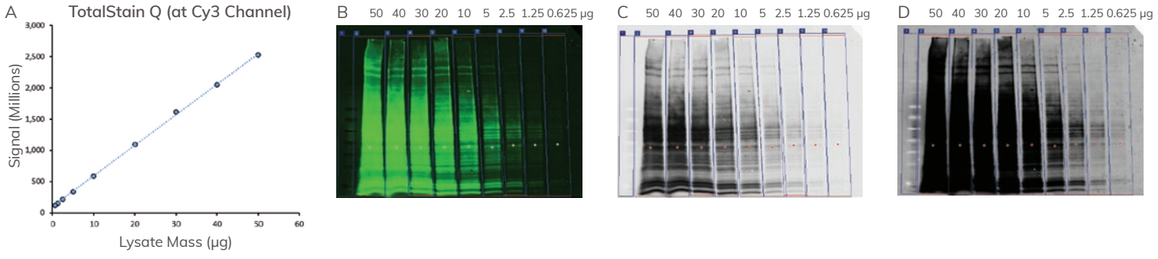
TotalStain Q Fluorescent Total Protein Stain Kit

Quantitative and rapid fluorescent reagent for Total Protein Normalization of Western Blots

A LINEAR TOTAL PROTEIN STAIN EVEN FOR HIGH LOADS OF CELLS LYSATES

The quantitative immunodetection of low abundant targets sometimes requires to load big amounts of protein in the gel. Highly expressed housekeeping proteins used for normalization lack proportionality in these conditions. TotalStain Q is a fluorescent total protein stain with linearity up to 50 µg of lysate, making it ideal for normalization of low expressed proteins. Kits for PVDF and nitrocellulose membranes.



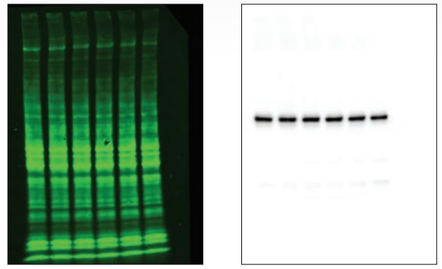


HeLa lysate dilution series 50µg – 0.625µg imaged in Cy3 channel. (A, B) Color image showing the broad Linear Range from 1-50µg; R^2=0.9950. (C, D) Grayscale images at different contrast to display the full range of quantification.

TotalStain Q Fluorescent Total Protein Stain Kit

CHEMILUMINESCENT WESTERN BLOTS

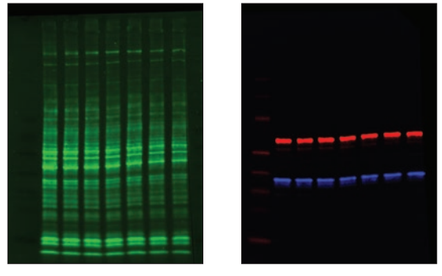
TotalStain Q is compatible with chemiluminescent western blots



HeLa lysate 5µg replicates. (Left) TotalStain Q imaged in Cy3 channel (Green). (Right) pSTAT3 chemiluminescent detection (Grayscale).

NIR FLUORESCENT WESTERN BLOTS

TotalStain Q is compatible with two-color NIR fluorescent western blots



HeLa lysate 5µg replicates. (Left) TotalStain Q imaged in Cy3 channel (Green). (Right) hnRNP K detection in 700nm channel (Red); GAPDH detection in 800nm channel (Blue).

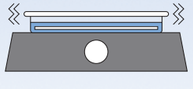
TotalStain Q offers

- **Linearity**—Total protein signal remains linear over a range of 1–50 µg of lysate, making it ideal for the most common samples in the lab
- **Convenience**—Simple stain-and-wash 20 minute protocol post-transfer and pre-blocking. No destaining step required
- **Versatility**—Compatible with ECL and NIR fluorescent immunodetection on PVDF in all Azure Imaging Systems. It is also used for transfer efficiency verification

CONVENIENT WORKFLOW

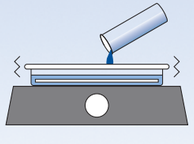
Takes 20 minutes from start to finish

1



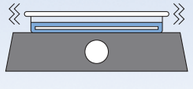
Rinse—After transfer 5-minute membrane rinse in water (10mL, gentle agitation)

2



Stain—5-minute TotalStain Q Staining Solution membrane incubation (10 mL, gentle agitation)

3



Wash—3 washing steps of the membrane of 3 minute each one in Working Washing Solution (10mL, gentle agitation)

4

Imaging—Image acquisition using digital imaging system at Cy3 Channel or Safe Dyes Channel

5

Immunodetection—Continue with Blocking Step of Western Blot after rinsing the membrane with water. No destaining required (if the PVDF membrane is dry, pre-wet it with 100% methanol, then incubate in water for 5 minutes)

AzureRed Fluorescent Protein Stain Kit

Sensitive fluorescent reagent for rapid Total Protein Stain in membranes and gels

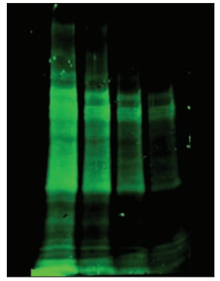
Azure Red Fluorescent Protein-Stain is a dye for sensitive detection of the total protein content of protein extracts in gels. It detects less than one nanogram of protein per spot in 2-D gels.

The high sensitivity of AzureRed also allows for quantitative total protein stain of WB with very low protein loads (0.1–1µg). It is ideal for Total Protein Normalization of biologic fluids with low protein concentration (Urine, cerebrospinal fluid, etc.). It is compatible with subsequent immunodetection using ECL and NIR fluorescence.

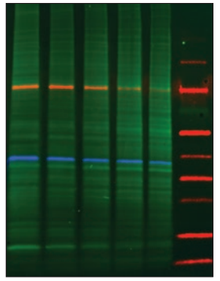
Suitable for imaging in all Azure Imaging Systems.

ECL AND NIR WESTERN BLOTS

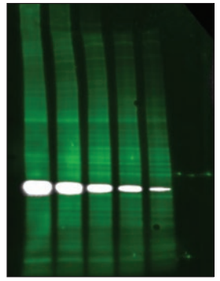
AzureRed is compatible with ECL and NIR fluorescent western blots



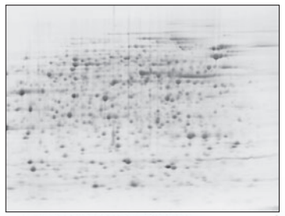
AzureRed concentrated urine Western Blot. AzureRed imaged in Cy3 channel (Green).



NIR immunodetection.



ECL immunodetection.



AzureRed 2-D gel.

AzureRed offers

- **Sensitivity**—Detect less than a nanogram of protein per spot in gels. Low background, and no speckling.
- **Convenience**—Simple stain-and-wash protocols. 30-minute protocol for Western Blots and 3-hour protocol for gels.
- **Versatility**—Compatible with downstream ECL and NIR fluorescent immunodetection in WB, and mass spectrometry. Reversible, but no de-staining is required.

Azure Ponceau Stain Visible Protein Stain Kit

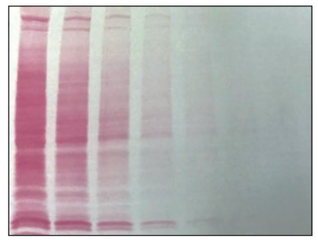
Sensitive colored reagent for rapid Total Protein Stain in membranes

Azure Ponceau detects total protein on nitrocellulose and PVDF membranes, allowing you to check the quality of protein transfer before proceeding with Western Blotting. Use Azure Ponceau stain to quickly make sure that protein transfer has been even across the entire blot, and that no bubbles or other transfer artifacts are present.

The staining is reversible and after destaining, membranes can immediately be used for Western Blotting.

ECL AND NIR WESTERN BLOTS

Azure Ponceau Red is compatible with ECL and NIR fluorescent western blots



Azure Ponceau Stain.

Azure Ponceau Stain offers

- **Quick**—Protein staining is complete in 5 minutes or less
- **Reversible**—Easily destain membrane with water
- **Compatible**—After destaining, PVDF and nitrocellulose membranes are ready for Western Blotting

Quantitative reagents for Total Protein Normalization

Specifications	TotalStain Q – PVDF Total Protein Stain Kit	TotalStain Q – NC Total Protein Stain Kit	AzureRed Fluorescent Protein-Stain Kit
Part number	AC2225	AC2227	AC2124
Description	Fluorescent Total Protein Stain for PVDF membranes	Fluorescent Total Protein Stain for nitrocellulose membranes	Fluorescent Total Protein Stain for membranes, 1-D and 2-D gels
Size	150 mL Stain solution 315 mL Wash Solution For 15 PVDF membranes	120 mL Stain solution 315 mL Wash Solution For 15 nitrocellulose membranes	5 mL AzureRed dye Powder A for Fix Solution Powder B for Stain Buffer For 40 mini-blots, 20 mini-gels, or 4 2-D gels
Compatibility	PVDF	Nitrocellulose	PVDF and nitrocellulose membranes, SDS-PAGE
Detection	Green Channel	Green Channel	Green Channel, UV Channel
LOD (ng BSA)	20	20	1
Linear range (µg Lysate)	1–50	1–50	0.1–1
Staining time (min)	19	24	29
Pre-WB Processing	No destaining required Reversible	No destaining required Reversible	No destaining required Reversible

Qualitative Reagent for Visual Verification of Transfer Efficiency

Specifications	Azure Ponceau Stain Colorimetric Total Protein Stain
Part number	AC2125
Description	Quick total protein stain for membranes
Size	500 mL For 50 mini-blots

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