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Simple Western Pre-filled Chemiluminescence Pipetting Module



Get Started Method

Clinical research, Proteomics, Drug discovery, Biopharma



Published by



Bio-Techne

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This protocol streamlines filling Bio-Techne's Simple Western™ pre-filled plate with the Chemiluminescence assay. OneLab's automation with Andrew+ ensures precise setup, aligning with the same time efficiency and reproducibility found with Jess™ platform, powered by Simple Western™ technology.

Jess system and other Simple Western platforms offer a solution to quicker and better results than traditional Western blot and ELISA.

Use in OneLab



Please note that this is a “Get Started Method”

This example method provides a freely adjustable framework for measuring the adaptability of the OneLab environment to workflows from different application fields. It helps to understand various nuances of the code-free, universal protocol designer and provides general indications as to the feasibility of a project. Scripts generally require fine adjustment to correct for variables and support specific labware implementation.

Overview

Automated Simple Western Pre-filled Plate Preparation Using Andrew+

Objective

The goal is to streamline the process, reduce manual errors, and enhance throughput. The solution uses the **Andrew+ Pipetting Robot** for precise liquid handling and leverages **Bio-Techne's Simple Western** technology for automated western blot analysis.

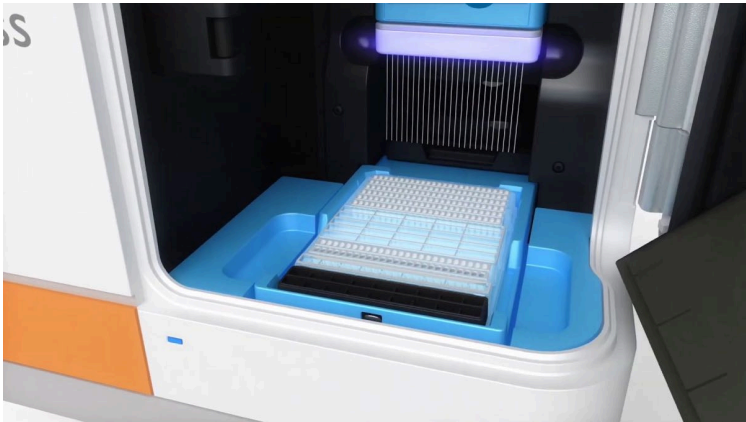


Figure 1: Plate and Cartridge in Jess Instrument

This OneLab Protocol fills a Simple Western pre-filled plate following our Chemiluminescence and Fluorescence training kit. Plate layout and Assay Protocol are followed from [Reference 1 - Fluorescence and Chemiluminescence Training Kit Product Insert](#).

Components

Simple Western Pre-filled Chemiluminescence Pipetting Module

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- 1. Sample Preparation:
 - a. Andrew+ Pipetting Robot:
 - i. Accurate sample transfers for consistent results.
 - b. Small Box Module (CHEMI HeLa Plate Pipetting):
 - i. Precise handling of low-volume samples (as small as 3 µL).
- 2. Western Blot Analysis:
 - a. Jess platform:
 - i. Capillary electrophoresis immunoassay technology.
 - ii. High-throughput analysis (up to 24 samples per run).
 - iii. Rapid results (within 3 hours).
 - iv. Detection options: chemiluminescence and NIR/IR fluorescence.
- 3. Normalization and Multiplexing:
 - a. RePlex™ Module:
 - i. Dual immunoassays in a single capillary.
 - ii. Accurate normalization using total protein detection.

Benefits

- Get reliable protein analysis without any hassle. The solution delivers accurate results with minimal effort on your part.
- Improve the accuracy, efficiency, and consistency of the analysis.

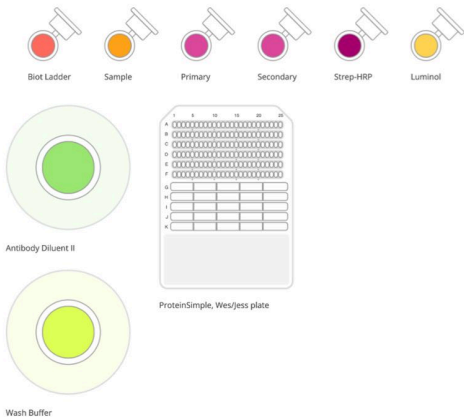
About Simple Western Technology

Simple Western is an innovative technology from Bio-Techne, that performs capillary-based immunoassays and fully automated Western blot analysis, taking the complexity out of traditional immunoassays like Western blot and ELISA and filling in their shortcomings.

Jess platform, powered by the Simple Western technology, automates the protein separation and immunodetection of traditional Western blotting, eliminating many of the tedious, error-prone steps. Just load your samples and reagents into the microplate, and Jess does the rest. She separates your protein by size and precisely manages antibody additions, incubations, washes, and even the detection steps. Come back to fully quantitative results in just 3 hours. With Jess's chemiluminescent and best-in-class fluorescent detection, you'll get picogram-level sensitivity, built-in total protein normalization, and highly reproducible ELISA-like results with molecular weight characterization. With Jess platform, it is like western blot meets ELISA in one.

Assay notes

Follow the Chemiluminescence and Fluorescence training Kit and Andrew+ General guidelines to establish best practices.



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Figure 2: OneLab virtual bench overview. Solutions required at the start.

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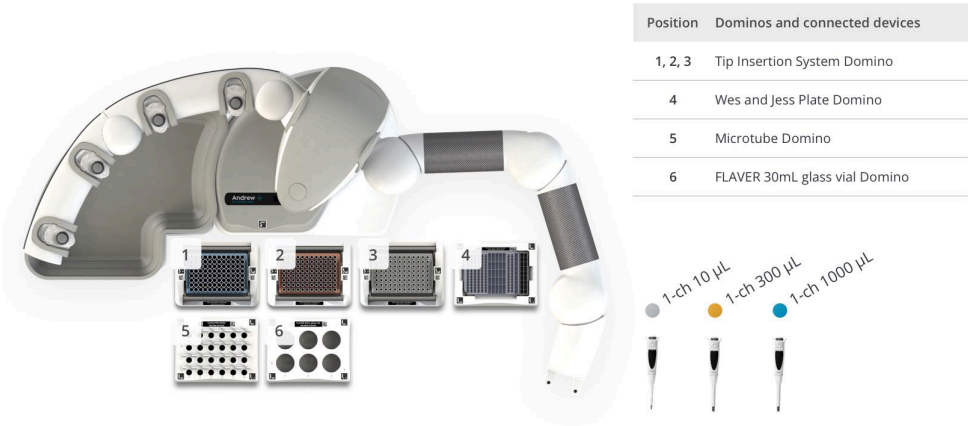


Figure 3: Andrew+ OneLab deck set up for the Jess CHEMI HeLa plate fill. Samples and reagents locations on Andrew+ deck: [1-3] Tip Insertion System Domino, [4] Simple Western pre-filled plate Domino, [5] Microtube Domino, [6] FLAVER 30mL glass vial Domino

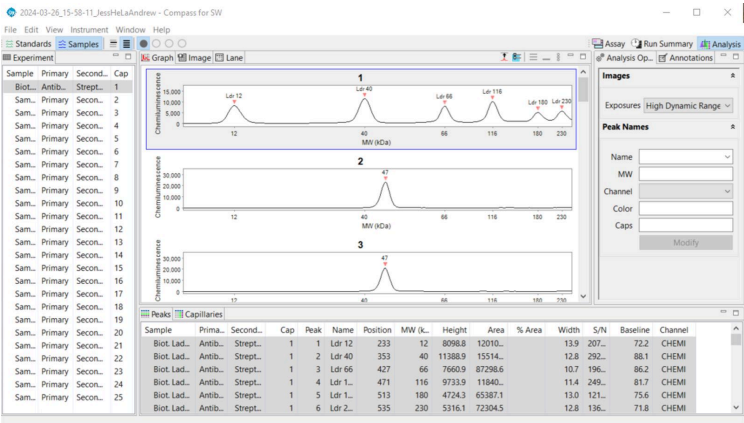


Figure 4: Graph view in Compass™ software for Simple Western platforms of an example run using this OneLab Protocol.

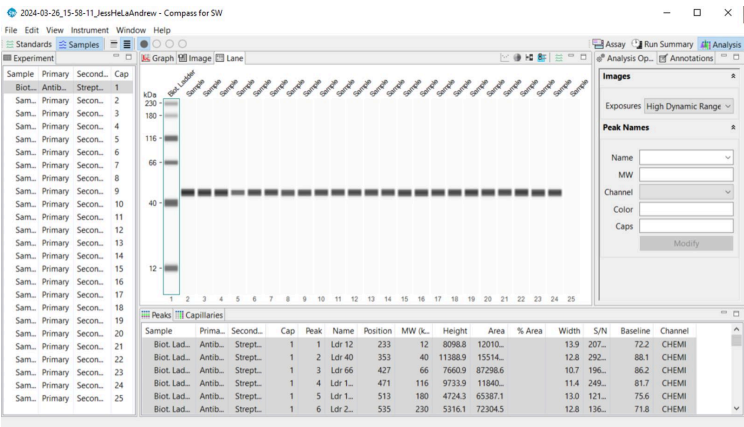


Figure 5: Lane view in Compass™ software for Simple Western platforms of an example run using this OneLab Protocol.

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Protocol specifications

Jess CHEMI HeLa plate fill;

- Estimated time of execution: 30m 8s
- Hands-on time: 0s
- Tip consumption:
 - 3× 0.1-10 µL tips
 - 4× 10-300 µL tips
 - 1× 50-1000 µL tips

Ordering information

Andrew+ System Components: Dominos, Devices, Electronic Pipettes & Tips

- Andrew+ Pipetting Robot
- OneLab software
- 3× Tip Insertion Domino | p/n [186009612](#)
- Microtube Domino | p/n [186009601](#)
- Wes and Jess Pre-filled Plate Domino | p/n [186010172](#)
- FLAVER 30mL Glass Vial Domino | p/n [186010191](#)
- Andrew Alliance Bluetooth Electronic Pipette, 1-ch 300 µL | p/n [186009769](#)
- Andrew Alliance Bluetooth Electronic Pipette, 1-ch 300 µL | p/n [186009606](#)
- Andrew Alliance Bluetooth Electronic Pipette, 1-ch 1000 µL | p/n [186009766](#)
- 2× Pipette Adaptor Single-Channel | p/n 186009590

Bio-Techne's Simple Western™ Instruments

- Simple Western Instruments: <https://www.bio-techne.com/instruments/simple-western>

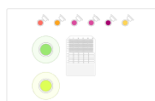
Recommended consumables

- Nalgene™ 30 mL narrow-mouth HDPE bottle | p/n 2002-0001
- Fisherbrand™ Premium 1.5 mL microtube | p/n 11926955

References

1. Fluorescence and Chemiluminescence Training Kit Product Insert: <https://www.bio-techne.com/pdf-download-arena-document/product-insert/pl3-0043>
2. Chemiluminescence and Fluorescence Training Kit: https://www.bio-techne.com/p/simple-western/chemiluminescence-and-fluorescence-training-kit_ps-t005

Protocols ¹



Jess CHEMI HeLa plate fill

Primary Antibody = Erk1 Secondary Antibody = Anti-Rabbit Plate layout following Jess CHEMI training module

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