

The development and validation of QC analytical techniques for the study of peptides and proteins.

Case Study – Optimization of an antibody in a colorimetric Western Blot and improvement of the blot transfer process.

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History

Historically Tepnel has performed Western Blot by transferring proteins to a blot membrane via wet transfer. A test involving primary antibodies using colorimetric Western Blot was not performing as expected. Tepnel was tasked with the investigation of the performance, optimisation, and validation of the analytical process together with a new antibody.

We aimed to optimise one of the western blot procedures.

- This was achieved through good collaboration between Tepnel and our client
- The assay has been revalidated using the new antibody
- The traditional transfer method did not provide adequate transfer efficiency for the antibody previously used
- The new antibody has a much higher affinity for the target protein and performed exceedingly well

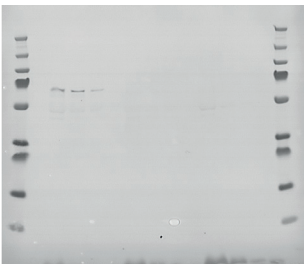
A novel method of dry transfer was developed, optimised, and validated.

Benefits of new methodology

- Due to the use of our novel dryblot system the process has been improved dramatically
- Transferring the proteins from the gel to the blot can now be better standardised
- Transfer time reduced from 60 minutes to just 7 minutes (88 % decrease) resulting in time and cost savings

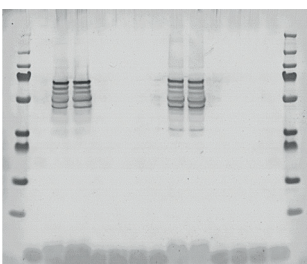
Pre-Optimisation

Western blot using the old antibody

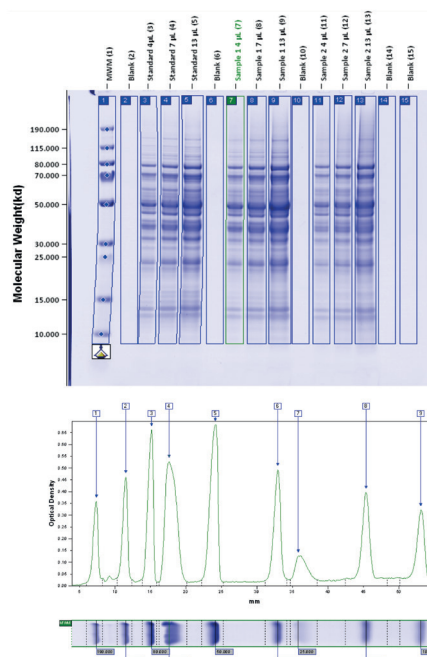


Post-Optimisation

Western blot using the new antibody



Traditional SDS-PAGE Method



Western using dryblot and Biorad Chemidoc

