



Hands-free immunoblot washing device

A low-cost, automated method to wash immunoblots

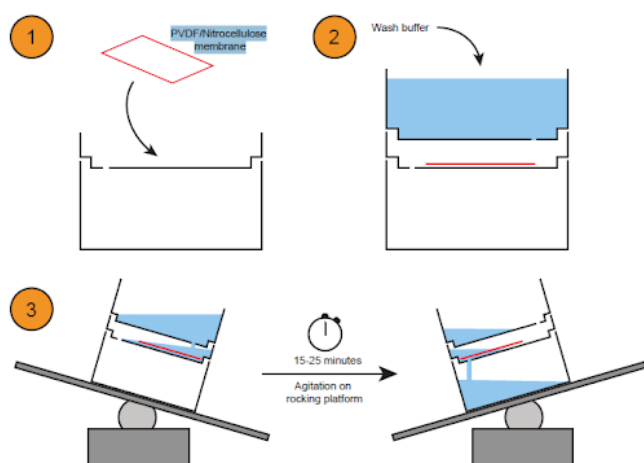
Technology ID

20160117

Category

Life Sciences/Research Tools

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IP Status: Issued US Patent; Issued Patent No. 10,670,558

Applications

- Standard immunoblotting protocols
- Membrane washing
- Research and clinical diagnostic labs

Key Benefits & Differentiators

- Low-cost, non-mechanical solution
- Hands-free design eliminates needs for researchers to change buffers
- Provides continuous agitation during the wash process
- Adjustable outlet flow rates
- Easy to clean

Immunoblot membrane washing

An effective and nearly hands-free apparatus easily washes polyvinylidene difluoride (PVDF) and nitrocellulose membranes used for immunoblotting in research and clinical diagnostics labs. The device consists of three stacking reservoirs: The top reservoir is filled with wash buffer, the middle holds the immunoblot membrane(s) to be washed, and the bottom collects liquid waste. Wash buffer flows from the top reservoir into the middle reservoir, and used buffer from the middle reservoir flows into the bottom (waste) reservoir. Placing the device on a rocking/rotating platform (such as those already found in most labs) provides continuous agitation during the wash process. Furthermore, the outlet aperture diameter in both the wash buffer and membrane compartments can be adjusted so that the liquid either drips or flows continuously, and an adjustable flange in the membrane compartment helps control the depth



of the wash buffer in the container.

A hands-off approach

Standard membrane washing protocols generally depend on lab personnel to manually discard and replace wash buffer solutions in between a series of relatively short (~5-10 min) incubation periods on an agitating platform. Commercial efforts toward optimizing this work flow have relied on expensive pump-driven buffer exchange machines. This device provides a low-cost, non-mechanical solution that both streamlines and automates immunoblot membrane washing in labs already equipped with a mechanical rocking platform. This device is also easily disassembled for cleaning, which is critical in eliminating cross-contamination. The device provides a constant, gradual exchange of wash buffer, which both replaces the need for multiple serial washes and frees up considerable lab personnel time.

Desired Partnerships

This technology is now available for:

- License
- Sponsored research
- Co-development

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Researchers

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