SURF-BLOT Instructions

Revised 1986, 1990, 1991, 1995, Feb. 1. 1997

Changes from previous revision in **bold type.**

Description The SURF-BLOT is a device that clamps over a blot, forming up to 33 liquid channels on the surface of the blot. Each channel can then be used as an independent reaction vessel to test a strip1.5 mm. **or 2.5 mm.** wide on the surface of the blot. The SURF-BLOT replaces the procedure of cutting the blot into strips.

Packing List:
1- Machined acrylic slot former
1- Concave metal plate with a label on the non-useable side.
2- Foam pads (one is a spare)
1- Box of clips

Instructions for use:
1. Blot and process membrane, through blocking steps, as usual.

2. Position active side of wet membrane on the slotted portion of the acrylic plate. Blot must be dripping wet. If the blot is not wet enough, processing reagents will later wet the blot and cause the lanes to smear. Membrane can be any width, but must be long enough to form a leak-free channel. Note that adding a stain to your gel (like methyl green or pre-stained markers) will simplify positioning the blot if a specific position is needed. **Adding methyl green to the sample wells of the gel one minute before stopping the electrophoresis run is a good way to delineate the well positions onto the blot.**

3. Place foam pad on metal plate. **Place a flattened piece of Parafilm (TM) on top of the foam to keep the foam from wetting with processing reagents. Be sure the Parafilm is larger than the blot so the blot never touches the foam. Parafilm is available in a 50 cm. wide roll for larger SURF-BLOT devices.** Position the acrylic channel former over the Parafilm and clip the entire sandwich together with the binder clips. It is best to use the standard office-style steel clips for this. The stainless steel FATHER TIME'S BINDERS may not clamp with enough force to effect a good seal. **Use as many clamps as will fit around the perimeter of the SURF-BLOT.**

4. Remove excess liquid from the blot. **One can tip the SURF-BLOT to about 45 degrees for ten minutes and most liquid will drain to the hole area where it can be removed with a yellow pipet tip.** Do not aspirate, as one must be careful not to dry the blot or form channels between the lanes by over-aspiration.

5. Add antibodies or probes to the slots. Push the pipet tip firmly into the hole to introduce as few bubbles as possible. A clever way to eliminate bubbles is to cut approx. 8 mm. of the yellow tip off, introduce the antibodies with the tip, then withdraw the antibodies back into the tip. Any bubbles will rise to the top inside the tip and re-introduction of the sample is bubble-free. Alternatively, some researchers load the SURF-BLOT with the long gel loading type pipet tips, dribbling the sample slowly down the edge of the hole. **When using a wide-channel (2.5 mm.) SURF-BLOT, bubbles need not be removed as they will simply disappear when the SURF-BLOT is rocked.**

6. Rock or rotate the SURF-BLOT to ensure uniform processing of the blot surface. Be careful not to tip too far. Most primary antibody reactions are sufficient in 30 minutes. Use minimum time to minimize cross-contamination. **Incubation times longer than four hours can lead to cross-contamination.**

7. Remove solutions with pipet tips. Valuable samples may be recovered for future use. The blot may be rinsed by squirting the washing solution into the holes while the other end of the slot drains.

8. Remove the blot from the SURF-BLOT, rinse, and visualize with usual procedure.

Other uses for the SURF-BLOT:
The SURF-BLOT can also be used for "Grid-Blot" screening of monoclonal antibodies. See Lane, R.D., et. al., Hybridoma, 8, (1990), pp. 661-669.

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