

Brief Communication

A SIMPLE WASHING UNIT FOR MICRO-ELISA

Inspired by a technique developed at the National Institute of Public Health, The Netherlands (*Ruitenbergh, E. J.*, personal communication 1978) a simple washing unit for Micro-ELISA has been devised (cf. Figs. 1 and 2). The unit is composed of the following parts:

- A Spreader, made of a plexiglass plate cut out as demonstrated in Fig. 1 and provided with 4 legs.

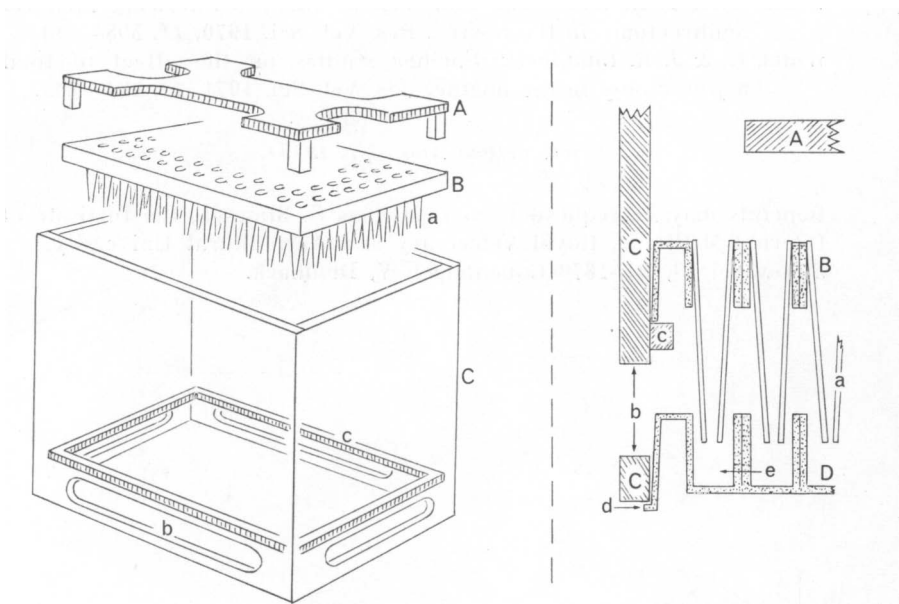


Fig. 1.

Fig. 2.

Figure 1. The washing unit schematically illustrated (not assembled).

Figure 2. The unit in correct position on a microtiter plate. Cross section — detail.

- B Sprinkler plate, made from an ordinary microtiter plate by planing off the well bottoms and the border rim (cf. Fig. 2) and fitting pipette tips (a) into the bottomless wells (e.g. MLA pipette tips 9025 shortened to a length of 3.5—3.6 cm).
- C Receptacle, made of 4 plexiglass plates, supplied with flush holes (b) at the bottom. The plates are welded to form a box with inner dimensions precisely fitting the sprinkler plate. Supporting lists of plexiglass are fixed just above the flush holes, forming an adjoined frame (c).

The washing unit is assembled by placing, first, the sprinkler plate upon the supporting lists and, next, the spreader plate upon the sprinkler plate.

Placed on top of an intact microtiter plate (D), the washing unit will rest upon the border rim (d) of the latter in a stable position and with the pipette tips of the sprinkler plate in a suitable position in relation to the wells (e).

To perform the washing process the unit, in position on the microtiter plate, is placed in a sink, and a stream of ordinary tap water is directed onto the spreader plate. By this procedure the water will be evenly distributed over the sprinkler plate and flow through the pipette tips down into each of the wells in the microtiter plate. From there the water will escape through the flush holes into the sink.

Pilot experiments with Micro-ELISA for serodiagnosis of toxoplasma infections in sheep would seem to indicate that a washing period of 10—15 s at each step of the procedure will secure satisfactory and reproducible reactions. The run-through capacity of the unit is about 1000 ml every 5 s.

To avoid blocking of the sprinkler pipette tips by calcareous impurities from the tap water, it is advisable to wrap the tap with fine-meshed netting (mesh width 100 μ).

If, say, a buffered detergent solution is required for the washing process instead of ordinary tap water, the necessary amount hereof is poured onto the spreader plate from a suitable container or by means of a flask, jug or other simple vessel.

The washing unit described would seem to represent a simple and inexpensive alternative to more advanced washing equipments.

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Sv. Aa. Henriksen

The State Veterinary Serum Laboratory, Copenhagen, Denmark.

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Reprints may be requested from: Sv. Aa. Henriksen, the State Veterinary Serum Laboratory, Bülowsvej 27, DK-1870 Copenhagen V, Denmark.