DEMONSTRATIONS

Photometric method for the measurement of cell migration inhibition

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The inhibition of cell migration *in vitro* has been widely used for the assessment of cell-mediated immunity and as an assay of proposed mediators of cellular immunity (Bloom & Glade, 1971). Lymphoid cells produce a soluble factor in culture capable of inhibiting leucocyte migration. Measurement of the degree of inhibition of cell migration is usually achieved by determination of the area of migration from either a projected image or a photograph of the migrating cells. This demonstration describes a device for photometric estimation of cell migration. The migrating cells are viewed under a microscope using dark field illumination, the image being projected on to a ground glass screen situated in front of a cadmium sulphide photodetector, whose resistance change is displayed on either a galvanometer or a pen recorder. Oil-induced guinea-pig peritoneal exudate cells are packed into capillary tubes and cultured in chambers on microscope slides at 37°C for 18 hours. The cell migration for a range of concentrations of the inhibitory material has been assessed both by area measurement and by the photometric method. The photometric method gives a comparable dose-response relationship to that obtained by area measurement and has the advantage of speed and convenience. Its use is illustrated in both guinea-pig macrophage migration and human peripheral leucocyte migration.

REFERENCE

BLOOM, B. R. & GLADE, P. R. (1971). In In vitro *Methods in Cell Mediated Immunity*. London & New York: Academic Press.

Non-traumatic blood collection from rat tail vessels. Application in *Mycoplasma arthritidis*

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Withdrawal of blood from the retro-orbital plexus, or from a cut in the tail, or by cardiac puncture, involves tissue damage which renders these procedures unsuitable for repeated use in the same rat, and may spoil the blood for certain tests. A simple technique of injecting or withdrawing fluids via the tail vessels was therefore devised. The mount is removed from an injection cannula, and the cut-off end of the cannula inserted into one end of a polythene or nylon tube (3–30 cm). The other end of the tube is connected via another cannula to a syringe. Short-bevel 25 gauge (0·5 mm) needles and 0·5 mm bore tubing are used for intravenous injections or infusions, and 23 gauge (0·65 mm) needles and 1·5 mm bore tubing for aspiration of blood. Under light ether anaesthesia, the tail is placed in warm water and then shaved. One of the lateral veins is compressed by an assistant, and the cannula inserted by hand or with a smooth forceps. Insertion into the ventral artery is slightly more difficult, and used mainly for collecting larger blood samples ($>0{\cdot}5$ ml) and for B.P. recordings.