

tive determinations for a single preparation of SSS. Since it may be expected that a given strain of pneumococcus produces a uniform SSS, *in vitro*, comparative determinations of SSS produced by such a single strain under differing conditions of growth, using the same serum, would appear to be valid. In such instances, the standard curve should be prepared with dilutions of SSS made in broth.

Summary. A standard solution of antipneumococcal rabbit antibody type III was titrated with varying dilutions of capsular polysaccharide, in the zone of antibody excess. Photronreflectometric readings were made after 20 minutes of incubation at 37°C and a standard curve made. Unknown concentrations of SSS can be determined by identical titrations of varying dilutions with reference to the standard curve, provided a single system is utilized.

11218

A Micromortar Especially Adapted to Virus Studies in Insects.*

JOHN C. BUGHER. (Introduced by J. H. Bauer.)

From the Yellow Fever Laboratory at Villavicencio, Colombia.

During efforts to improve quantitative methods of studying yellow fever virus in arthropods, it became evident that a single insect, such as a mosquito, can not be triturated in the ordinary mortar without the loss of much of the material, particularly when only a little liquid is added. The use of a small mortar that would also serve as a centrifuge-tube would reduce the loss and simplify the technic.

A device designed to achieve these ends was made of Pyrex glass; the two parts were first formed as accurately as possible in a flame; then the pestle was ground on a wheel to an approximate fit with the apposing surface of the mortar. The grinding surface was then formed at the bottom of the tube by seating the pestle B into A, using carborundum mixed with turpentine or glycerol. The grinding should be finished with a fine powder to give a reasonably fine tooth to the finished surface.

It is essential that the two grinding surfaces be well fitted and that the clearance established by the neck of the pestle should exceed in

* The studies and observations on which this paper is based were conducted with the support and under the auspices of the Section of Special Studies maintained by the Colombian Government and the International Health Division of the Rockefeller Foundation.

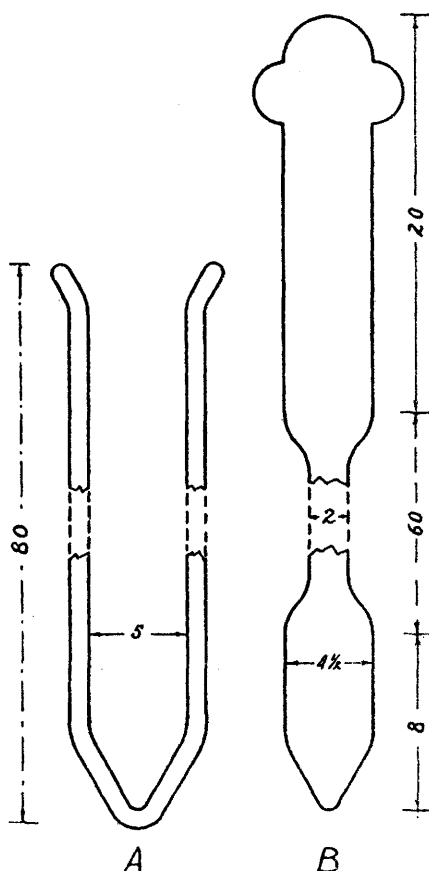


FIG. 1.

Construction-details of micromortar A and pestle B. Dimensions given are in millimeters. Angle of grinding cone should be approximately 60°.

volume the quantity of fluid to be used in the mortar when the pestle is in place.

In the final grinding with carborundum, almost inevitably a ground surface will be formed in the upper portion of the tube where the head of the pestle is inserted. This is an advantage in that the presence of this ground surface assists in matching a particular pestle with its mortar. For further convenience, the exterior of the mortar may be etched to mark the volumes desired.

Mode of Use. The insect is dropped to the bottom of the dry mortar. The end of the pestle is moistened with the fluid in which the ground insect is to be suspended and is inserted so that the insect is caught between the two matching surfaces of the mortar and pestle. Grinding by revolving the pestle is continued until no more particles

are visible. Frequently the addition of more diluent is desirable. When grinding is finished, the pestle is lifted and the additional fluid runs down the stem, thus washing adhering material from the pestle and from the wall of the mortar.

After centrifugation of this tubular mortar the supernate is allowed to run toward the mouth of the tube, where it can be collected in a graduated syringe or pipet.

These pestles and mortars are obviously not interchangeable, so it is desirable that matched parts be suitably numbered. The assembled micromortars may be tubed, and sterilized by dry heat.

11219 P

Inhibitory Effect of Implanted Estrogenic Hormone Crystals upon Post-Menopause and Castration Hypophysis of Women.

UDALL J. SALMON, SAMUEL H. GEIST AND ROBERT I. WALTER.*
(With the technical assistance of A. A. Salmon.)

From the Laboratories of the Mt. Sinai Hospital, New York City.

It has previously been shown in animals¹⁻⁸ that after castration there is an increased secretion of gonadotropic hormone by the pituitary. Similar gonadotropic hyperactivity of the pituitary was shown to occur in humans after castration and after the menopause.⁹⁻¹⁴ It

* Joseph Brettauer Research Fellow in Gynecology.

¹ Engle, E. T., *Am. J. Physiol.*, 1929, **88**, 101.

² Evans, H. M., and Simpson, M. E., *Am. J. Physiol.*, 1929, **89**, 371.

³ Martins, T., *Insti. Oswaldo Cruz. Supplem. das Memor.*, 1929, **10**, 242.

⁴ Meyer, R. K., Leonard, S. L., Hisaw, F. L., and Martin, S. J., *PROC. SOC. EXP. BIOL. AND MED.*, 1930, **27**, 702.

⁵ Moore, C. R., and Price, D., *PROC. SOC. EXP. BIOL. AND MED.*, 1930, **28**, 38.

⁶ Kallas, H., *Klin. Wchnschr.*, 1930, **9**, 1345.

⁷ Meyer, R. K., Leonard, S. L., Hisaw, F. L., and Martin, S. J., *Endocrinology*, 1932, **16**, 655.

⁸ Moore, C. R., and Price, D., *Am. J. Anat.*, 1932, **50**, 13.

⁹ Fluhmann, C. F., *Am. J. Obs. and Gyn.*, 1929, **20**, 1.

¹⁰ Zondek, B., *Klin.-therap. Wchnschr.*, 1930, **9**, 393.

¹¹ Osterreicher, W., *Klin. Wchnschr.*, 1933, **12**, 538.

¹² Hamburger, C., *Acta Path. et Microbiol. Scand.*, 1933, **17**, 1.

¹³ Frank, R. T., Salmon, U. J., and Friedman, R., *PROC. SOC. EXP. BIOL. AND MED.*, 1935, **32**, 1666.

¹⁴ Salmon, U. J., and Frank, R. T., *PROC. SOC. EXP. BIOL. AND MED.*, 1935, **32**, 1236.