

HOT ACETO-ORCEIN FOR STAINING HUMAN CHROMOSOMES

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We have been able to achieve consistently excellent staining of human chromosomes by using hot Aceto-Orcein. This method also shortens the time taken to stain a batch of slides to 10 minutes or less. The procedure is as follows:

Air dried slides are dipped in absolute alcohol for a minute and dried at 55-60°C on a slide warmer. 0.5% Orcein* (0.5 gram orcein in 100ml of 60% acetic acid) is slowly heated to about 80°C and filtered hot. Dried slides which are kept at 55-60°C until staining are dipped into the hot orcein stain for a minute or two. It is important that the stain be hot and the slides be kept warm prior to staining. This could be done by keeping the stain in a water bath between 80°-100°C and the slides on a slide warmer between 55°-60°C. After staining, the excess stain on the slide is dripped off completely by holding the slide at an angle. Observe the slide under the microscope and if overstained a dip in 95% alcohol should help remove excess stain. If staining is inadequate, keep the slide for 5 to 10 additional minutes in the hot stain. When once the slide is satisfactorily stained, it is dipped in absolute alcohol for a minute, taken through xylol and mounted in canada balsam or any other mounting medium.

This method has more than one advantage over the staining procedures commonly followed. The slide is stained and ready for examination in less than 10 minutes. The intensity of staining is excellent. The chromosomes look well-fixed and highly suitable for photomicrography. This method has yielded well-stained preparations even when slides which had been stored for long periods were used.

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* Both B. D. H. and G. T. Gurr stains were used. The Gurr stain was natural Orcein, and it is not known whether the B. D. H. stain was synthetic or natural.