Simultaneous G and C banding of human chromosomes

Of the methods available for identification of human chromosomes, the Giemsa bands are the most useful for the detection of chromosomal abnormalities, while the C bands are more helpful for the study of familial polymorphic variants. A combination of these two patterns provides a maximum amount of information for cytogenetic

studies. We describe here a simple technique by which G and C bands are obtained simultaneously in the same preparation.

Metaphase chromosomes are prepared as previously described (Sanchez, Escobar, and Yunis, 1973). The slides are treated with 0.2 N HCl for 15 minutes, washed with water, placed in $2 \times$ SSC (pH 7) at 60°C for 10 minutes, dehydrated through alcohol (because the chromosome structure then shows with a sharper and more defined banding pattern), and then stained with Wright's diluted 1:3 with phosphate buffer (pH 6.7) 0.13 M, for 3 to 4 minutes.

FIG. 1. Karyotype of human female. G and C bands are present in all chromosomes. Note specifically the C band of chromosome 9.

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FIG. 2. Metaphase of 48, XXYY patient. Both Y chromosomes are easily identified.

As shown in Fig. 1 and 2, with this technique the G and C bands are both clearly present in all chromosomes.

We propose the term W-bands (Wright) for this combined chromosomal banding pattern.

REFERENCE

Sanchez, O., Escobar, J. I., and Yunis, J. J. (1973). A simple G-banding technique. *Lancet*, 2, 269.

LUIS M. DE LA MAZA and OTTO SANCHEZ
*Medical Genetics Division, Department of
Laboratory, Medicine and Pathology,
Box 198, Mayo Memorial Buildings,
Minneapolis, Minnesota 55455, USA*