

CHAIRPERSON'S INTRODUCTION

Structural features of the Y chromosome

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Sex determination, as a model for the developmental process in mammals, is undoubtedly the principal reason for the intense activity of research on the Y chromosome. As the smallest human chromosome it also offers a simple system for studying those aspects of the human genome that are less well understood than genes and the control of their expression. These include functional regions, such as the kinetochores and telomeres involved in chromosome segregation and integrity. The regions associated with these functions contain the simple-sequence DNAs discovered more than 25 years ago but whose roles are

still not understood. The association of simple-sequence DNA with the more broadly defined heterochromatic regions of the genome is nowhere better seen than in the long arm of the Y chromosome. The four papers that follow describe studies of sequences in the Y chromosome in the region of the telomere of the short arm, in the region of the centromere and within the heterochromatin present on the long arm. Taken with the studies of the genes, we see in this work the beginnings of a complete description of the DNA of an entire chromosome. No other mammalian chromosome offers this possibility.