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## Sequence of human chromosome 21

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Chromosome 21 may have as few as 225 active genes in its 33.8 Mb of DNA, according to the sequence published electronically by *Nature* on May 8 (and published in print on May 18 as Hattori *et al. Nature* 2000, **405**:311-319). This is roughly half the gene density of the only other completely sequenced chromosome arm, that of *chromosome 22*, and it includes a 7 Mb stretch - larger than the *Escherichia coligenome* - that contains only one gene. Extrapolating from the average gene density of chromosomes 21 and 22 gives a total number of human genes that is closer to 40,000 than the estimated 70-140,000. The low density of genes on chromosome 21 may explain why children with Down's syndrome, who are trisomic for chromosome 21, can survive.

## References

1. Nature magazine's homepage, [<http://www.nature.com/nature/>]
2. The DNA sequence of human chromosome 22