NCBI **Genetics Review**

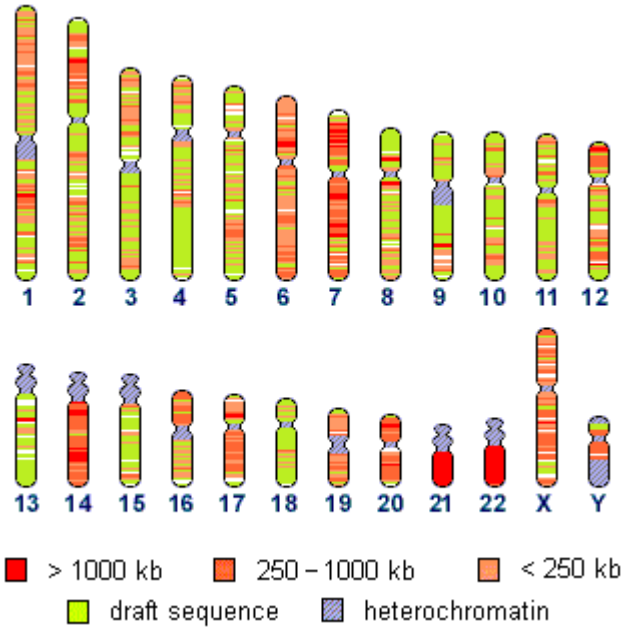
A few more terms...

- acrocentric chromosome
- euchromatin
- heterochromatin
- draft sequence
- finished sequence

Acrocentric chromosome

A chromosome in which the centromere is very close to one end.

For example, the centromere of chromosomes 13, 14, 15, 21, and 22 is very close to the p telomere, making the p arm very short. The p arm in those chromosomes contains heterochromatin, colored in blue.



The Human Genome Project focuses primarily on sequencing the euchromatic regions of the chromosomes. The illustration above uses a color code to show the sequencing progress (as of June 25, 2000).

The Human Genome Sequencing page shows an illustration that is updated as new sequence data are generated, and includes a link to progress statistics.

Source:
definition based on:
Smith, A.D., et al., eds. 1997. *Oxford Dictionary of*

Biochemistry and Molecular Biology. New York: Oxford University Press.

illustration from:
NCBI Human Genome Sequencing web page, July 20, 2000
http://www.ncbi.nlm.nih.gov/genome/seq/

Euchromatin

"The fraction of the nuclear genome which contains transcriptionally active DNA and which, unlike heterochromatin, adopts a relatively extended conformation."

Source: Strachan, T. and Read, A.P. 1999. Glossary in *Human Molecular Genetics, 2nd ed*. New York: John Wiley & Sons.

Heterochromatin

"A chromosomal region that remains highly condensed throughout the cell cycle and shows little or no evidence of active gene expression."

Source: Strachan, T. and Read, A.P. 1999. Glossary in *Human Molecular Genetics, 2nd ed*. New York: John Wiley & Sons.

Draft Sequence

A region of sequence which still contains gaps, and in which sections of DNA might still be of unknown order and orientation.

The sections of DNA are grouped together into a single GenBank submission because they have been sequenced from the same clone. Once the order and orientation of the sections is determined, and as the gaps are filled, the sequence will move into the finished phase.

The draft sequence in the illustration above is shown in green, while finished sequence is shown in shades of orange or red (depending on the length of the finished segment of sequence).

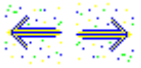
The phases of sequencing are described on the High-Throughput Genomic Sequences (HTG) page. Draft sequence can be either phase 1 or phase 2.

Finished Sequence

A region of sequence which has been completely sequenced. It contains no gaps, and the order and orientation of all the sequence subsections are known.

The finished sequence in the illustration above is shown in shades of orange or red (depending on the length of the finished segment of sequence), while the draft sequence is shown in green.

The phases of sequencing are described on the High-Throughput Genomic Sequences (HTG) page. Finished sequence is phase 3.



Revised February 13, 2001
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