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## Guesses, anyone?

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How many genes are there in the human genome? The latest estimates in the June issue of *Nature Genetics* are based on mountains of sequence information, but still range from 30,000 to 120,000. Ewing and Green compare the overlap between two independently derived groups of sequences to estimate the total number of genes at about 35,000 (*Nat. Gen.* 2000, **25**:232-234). Crollius *et al.* use a homology comparison between human and pufferfish DNA to estimate gene density before extrapolating to a total of 28,000-34,000 human genes, with perhaps less than 40% of these genes represented in the UniGene collection (*Nat. Gen.* 2000, **25**:235-238). Finally, Liang *et al.* start with over 1.6 million expressed sequence tags (ESTs) and, after consolidation and a thorough cleaning to remove contaminating sequences and spurious singletons, come up with an estimate of about 120,000 genes (*Nat. Gen.* 2000, **25**:239-240). Multiple ESTs can arise from a single gene after alternative or failed splicing, but even after taking steps to eliminate such artifacts Liang *et al.* derive an estimate of 110,000 genes.

## References

1. How many genes in the human genome?
2. Nature Genetics, [<http://www.nature.com/ng/>]
3. UniGene, [<http://www.ncbi.nlm.nih.gov/UniGene/index.html>]