GENETICS

3,93 MUTATIONS / MB

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1 MB is 1 Megabyte is 1,000,000 bytes and 1 Mb is 1 Megabase is 1,000,000 nucleotides. Although a new nature paper doesn't make any fuss about it, there are 3,93 mutations / Mb in cancer tissues (in total they found 1,007 mutations by scanning 274 Mb from 210 cancer tissues).
There are some minor inconsistencies as according to the methods they sequenced ~500 bp of ~10,000 fragments from 210 cancers (which would multiply to 1,050 Mb and not 274 Mb) as well as 1,007 / 274 is 3,68 (and not 3,93).
Anyway, 3,93 / Mb is an excessive high figure. If we multiply 3,93 with the 3,100 Mb of the human genome, each cancer cell will have 12,183 acquired somatic mutations which is about 10-fold to conventional wisdom.
By looking at the ratio of non-synonymous:synonymous base exchanges, the authors believe that 83% are passenger mutations – this would mean that a "normal" cell of a 70 year old would have acquired 10,092 mutations.

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More estimates in a July 2007 review.

30/6/2025

Another update