

Junk DNA?

Only 2% of the human genome codes for proteins. Is the other 98% the accumulated junk from hundreds of millions of years of evolution?

Useful “Junk”

- pseudogenes
- SINES
- LINES
- endogenous retroviruses
- LTRs



Useful “Junk”

pseudogenes: protect protein-coding genes from breakdown or malfunction



Useful “Junk”

SINES: protect the cell from stress; regulate the expression of protein-coding genes

Useful “Junk”

LINES: some inactivate the X-chromosome so as to prevent genetic disorders; others turn off one of the two genes inherited from the organism’s parents

Useful “Junk”

endogenous retroviruses: some disrupt the life-cycle of invading retroviruses; others function as protein-coding genes

Useful “Junk”

LTRs: some protect the organism from retroviral attacks; others regulate the expression of certain protein-coding genes



DNA Tests for the Garden of Eden Hypothesis

Mitochondrial DNA

- descent from one/a few females
- lived near juncture of Africa, Asia, and Europe
- lived ~150,000 BP (with heteroplasmy, ~50,000 BP)
- insignificant mDNA evolution

Y-Chromosome DNA

- descent from one/a few males
- lived near juncture of Africa, Asia, and Europe
- lived 42,000 - 56,000 BP
- insignificant yDNA evolution