

Most complete primate gene study reported

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U.S. scientists have completed what's believed the most comprehensive assessment of gene copy number variations across human and non-human primate species.

Researchers from the University of Colorado Health Sciences Center and Stanford University said their study provides an overview of genes and gene families that have undergone major copy number expansions and contractions during approximately 60 million years of evolutionary time.

Primates first appeared on Earth about 90 million years ago, and today roughly 300 primate species exist. To survey the differences in gene copy number among those species, University of Colorado Professor James Sikela and colleagues used DNA microarrays containing more than 24,000 human genes to perform comparative genomic hybridization experiments.

They compared DNA samples from humans with those of nine other primate species: chimpanzee, gorilla, bonobo, orangutan, gibbon, macaque, baboon, marmoset, and lemur. That allowed them to identify specific genes and gene families that, through evolutionary time, have undergone lineage-specific copy number gains and losses.

The scientists said they discovered differences potentially associated with cognition, reproduction, immune function, and susceptibility to genetic disease.

Their findings are reported in the online edition of the journal *Genome Research*.

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