

Resource Summary Report

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Dog Genome Project

RRID:SCR_008486

Type: Tool

Proper Citation

Dog Genome Project (RRID:SCR_008486)

Resource Information

URL: <http://www.broad.mit.edu/mammals/dog>

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Description: The genome of the domesticated dog, a close evolutionary relation to human, is a powerful new tool for understanding the human genome. Comparison of the dog with human and other mammals reveals key information about the structure and evolution of genes and genomes. The unique breeding history of dogs, with their extraordinary behavioral and physical diversity, offers the opportunity to find important genes underlying diseases shared between dogs and humans, such as cancer, diabetes, and epilepsy. The Canine Genome Sequencing Project produced a high-quality draft sequence of a female boxer named Tasha. By comparing Tasha with many other breeds, the project also compiled a comprehensive set of SNPs (single nucleotide polymorphisms) useful in all dog breeds. These closely spaced genomic landmarks are critical for disease mapping. By comparing the dog, rodent, and human lineages, researchers at the Broad Institute uncovered exciting new information about human genes, their evolution, and the regulatory mechanisms governing their expression. Using SNPs, researchers describe the strikingly different haplotype structure in dog breeds compared with the entire dog population. In addition, they show that by understanding the patterns of variation in dog breeds, scientists can design powerful gene mapping experiments for complex diseases that are difficult to map in human populations. Contribute Although the astounding generosity of Eli and Edythe L. Broad and several other venture philanthropists empowers our scientists to tackle many of the most important problems at the cutting edge of genomic medicine, there are many other critical challenges that they cannot yet pursue because of limited resources. We need additional visionary partners to join the Broads and the Broad Institute in transforming medicine with the power of genomics.

Synonyms: Dog Genome, Canine Genome Project, Dog Gene Project, A Comprehensive Canine Genetics Resource Including Gene and Variation Annotation, Dog Genetics Project

Resource Type: data or information resource, portal, topical portal

Keywords: dog, canine, human, gene, medical, research, genome, annotation

Funding: NIH Office of the Director R24 OD018250

Resource Name: Dog Genome Project

Resource ID: SCR_008486

Alternate IDs: nif-0000-30464

Alternate URLs: <http://dogdata.org/>, <https://orip.nih.gov/comparative-medicine/programs/genetic-biological-and-information-resources>, <https://www.broadinstitute.org/mammals-models/broad-institute-canine-genomic-resources>

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Ratings and Alerts

No rating or validation information has been found for Dog Genome Project.

No alerts have been found for Dog Genome Project.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 4 mentions in open access literature.

Listed below are recent publications. The full list is available at [Kravitz](#) .

Siddiqui I, et al. (2019) Intratumoral Tcf1+PD-1+CD8+ T Cells with Stem-like Properties Promote Tumor Control in Response to Vaccination and Checkpoint Blockade Immunotherapy. *Immunity*, 50(1), 195.

Costa AC, et al. (2012) Multidimensional scaling applied to histogram-based DNA analysis. *Comparative and functional genomics*, 2012, 289694.

Quignon P, et al. (2007) Canine population structure: assessment and impact of intra-breed stratification on SNP-based association studies. *PloS one*, 2(12), e1324.

Awano T, et al. (2006) A mutation in the cathepsin D gene (CTSD) in American Bulldogs with neuronal ceroid lipofuscinosis. *Molecular genetics and metabolism*, 87(4), 341.