

## The evolutionary history of dogs in the Americas

Dogs were present in the Americas before the arrival of European colonists, but the origin and fate of these precontact dogs are largely unknown. We sequenced 71 mitochondrial and 7 nuclear genomes from ancient North American and Siberian dogs from time frames spanning ~9000 years. Our analysis indicates that American dogs were not derived from North American wolves. Instead, American dogs form a monophyletic lineage that likely originated in Siberia and dispersed into the Americas alongside people. After the arrival of Europeans, native American dogs almost completely disappeared, leaving a minimal genetic legacy in modern dog populations. The closest detectable extant lineage to precontact American dogs is the canine transmissible venereal tumor, a contagious cancer clone derived from an individual dog that lived up to 8000 years ago.

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