

Description

Emperor Wu, born Yuwen Yong, was a 6th-century ruler of the Northern Zhou dynasty who unified northern China after defeating the rival Northern Qi empire. He died prematurely at the age of 36 in 578 C.E. A 2024 genomic study recovered over one million SNPs from his remains, enabling both a physical reconstruction and a clinical analysis of his death. The analysis identified several pathogenic risk alleles associated with stroke, supporting stroke as a likely cause of death and offering a clinical explanation for the symptoms recorded in historical accounts of his final days.



Tang-dynasty portrait of Emperor Wu of Northern Zhou, attributed to Yan Liben (c. 600–673 CE).

Emperor Wu was ethnically Xianbei, belonging to a nomadic people from Northeast Asia who rose to power following the collapse of the Han Empire. For centuries, historical chronicles attributed "exotic" Western features, such as yellow hair and thick beards, to the Xianbei elite, which created a persistent image of a semi-foreign ruling class. The genomic data provided a correction: Emperor Wu had black hair, brown

eyes, and dark to intermediate skin, a typical East Asian phenotype that reflects the Xianbei's biological integration with local Chinese populations by his era.



Epitaph from the Xiaoling Mausoleum — Emperor Wu's tomb, source of the 2024 paleogenomic study.

The genetic risk alleles for stroke identified in his DNA align exactly with the symptoms described in contemporary historical sources: aphasia, abnormal gait, and drooping eyelids — the characteristic presentation of a major cerebrovascular event. Paleogenomic analysis determined his ancestry as 62% Ancient Northeast Asian, 32% Yellow River Farmer, and 6% Western Steppe Herder. His genome simultaneously resolved a centuries-old historical misconception about Xianbei appearance and provided a clinical explanation for the sudden death of a ruler whose passing altered the course of the dynasty he had spent his reign building.

Modern population	Distance
Daur (China)	4.159

Modern population	Distance
Mongol (Mongolia)	5.508
Xibo	5.944
Hezhen	6.862
Buryat	7.382
Khamnegan	7.601
Oroqen	7.674
Tibetan (Gangcha)	8.020
Kalmyk	8.388
Tibetan (Xunhua)	8.768

Source

Date: 1743–1793 CE

Y-DNA: C-F3830

mtDNA: C4a1a+195

Location: China

Research: Ancient genome of the Chinese Emperor Wu of Northern Zhou

Sample(s): H12501