

Twins

Approximately one in every fifty Americans is a twin, two thirds of which are fraternal and one third identical. Triplets occur once in every 8000 deliveries.

Identical twins are formed when one egg is fertilized by a single sperm cell and then divides within the first few days of pregnancy. If division of the egg occurs after 8 days, this can result in conjoined twins, also known as Siamese twins. Twins produced by this process are referred to as identical since their DNA sequence is identical. While the twins are identical genetically, this often does not apply to the actual physical or behavioral traits.

Generally their traits are similar, however they can differ. The occurrence and distribution of identical twins in the population appears randomly and does not matter when, where, or to whom they were born.

Fraternal twins are formed when two eggs are independently fertilized by two sperm cells. Fraternal twins do not have identical DNA but will have half of their DNA in common, just like siblings of the same parents that are born at different times. Fraternal twins can either be of the same sex or different sex.

The occurrence of fraternal twins varies substantially in frequency around the world. They are common in the pregnancies of older women, especially common in Africans, and relatively rare among those of Asian heritage.

Twin classification done at delivery often results in misidentification. For example, approximately 25-33% of identical twins have two sets of chorionic membranes. Unless a DNA or other blood test was performed, it is difficult to accurately determine if twins are fraternal or identical.

Twins of the World

Identical: 33%

Fraternal: 67%

Forensics

DNA crime scene evidence from an identical twin can hinder prosecution because two people have identical genetic markers.

Setting the Standard for Quality DNA Identification



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