



## Sex Chromosomes



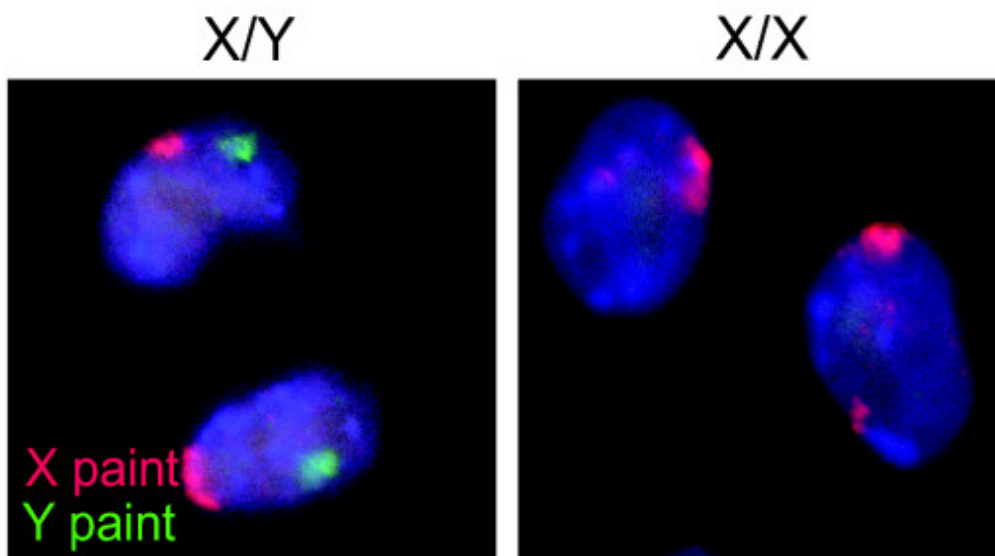


For the most part, mammals have gender determined by the presence of the Y chromosome. This chromosome is gene poor and a specific area called sex determining region on Y (**SRY**) is responsible for the initiation of the male sex determination. The X-chromosome is rich in genes while the Y-chromosome is a gene desert. The presence of an X-chromosome is absolutely necessary to produce a viable life form and the default gender of mammals is traditionally female.



Human X and Y chromosomes with G-Banding.

Chromosomal painting techniques can reveal the gender origin of mammalian cells. By using fluorescent marker sequences that can hybridize specifically to X or Y chromosomes through Fluorescence In Situ Hybridization (FISH), gender can be identified in cells.



The male cells have an X and a Y while the female cells have X and X combination. Credit: [Janice Y Ahn, Jeannie T Lee \[CC BY 2.0\]](#)

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