

# Sex determination and development

[Science](#), [Biology](#)



## Sex Determination and Development Summary Genetics and Society 12-8

Sali Aljehani Sex Determination and Development Sex determination and development starts from the smallest building organism which is known as the cells. These are basic building blocks that are in trillions in the body and form the basis of body organs and human structure. Among the cell structure is the existence of chromosomes which forms human body nucleus. In them is the sex chromosomes which are paired into X and Y or Y and Y and are the determinant of the child's sex depending on their combination after intercourse. The development and determination of sex in mammals occurs precisely during the fertilization of the ovary by the sperm. The same pair of chromosomes results to female while the different pairs results to male product. (Doren, 2009)

The production of new plant-line is also determined by the produced monploids through genetics that result from favorable genotypes. Therefore, it involves the doubling of chromosomes to form homozygous, fertile diploids. There is abnormal number of chromosome aberrations in Aneuploidy which results to organism's production in a non functional condition through meiosis. DNA component also help in the determination of the inherited chromosomes which form part of the development and sex determination. The components are cellular units that form basic components of chromosome cells that are inherited. This demonstrates how the living things are and how it is prone tom develop. Half of a child's DNA is inherited from the parent's DNA and is made possible through the sexual fertilization process when the eggs and sperms meet.

Differentiation in terms of development in human starts appearing in the

embryo. The difference is realized in gonad within the first six weeks of gestation. The development of female sex is visible in the primordial germ cell which plays a vital role in ovary development. Sry+ and Y-linked are essential players in the first stage of indifference. Y-linked helps in production control and development of testis during cell differentiation. This is also vital in the cell differentiation of two key hormones which gives secondary hormones that controls sex differentiation through Sry+ and Sox-9+ plus an active Dax-1+ gene. The germ primordial cells are enclosed by epithelial cells that help in the creation of primitive sex cords in female. These results to the development of female genital duct, Wolffian and Mullerian duct which forms the female organ when fully developed.

#### Reference

Doren, M. V. (2009). Sex Determination and Sexual Development. Oxford: Academic Press.