

News & Comments

The Development of Embryos is Influenced by this Gene

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An important gene in embryo development has been discovered by researchers. Some babies may be born with physical abnormalities, while some adults may develop diseases like cancer because of this gene's influence at the cellular level.

The development of the human embryo is a miraculously complex process involving the activation of a molecules chain of chemical reaction, called as 'signaling pathway'. During human development, the hedgehog signaling pathway is active, but it is also active in adulthood. So, this pathway became the target of the investigation of a research team, who after studying it, discovered that a specific gene – CNPY4, affects the Hedgehog pathway function in a cell.

The team also discovered the central nature of this gene in human development, as it is present in a handful of processes. When the scientists tweaked the CNPY4 gene in the mouse embryo, the mouse was born with a birth defect, of having extra fingers/toes, also known as polydactyly. Moreover, it also caused abnormalities of the spine and ribs in some mice.

Since the same pathways are affected in various disorders, so it could be a target for therapies for cancers that are related to Hedgehog signaling. It may be possible to develop new cancer treatment options by targeting the CNPY4 gene.

KEYWORDS

Cancer, cell, children, cholesterol, craniofacial, drugs, embryo, gene, genetics, hedgehog signaling, human embryos, hyperactivity

