

# Study derives floor plate tissue from embryonic stem cells

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Christopher Fasano, PhD, from the New York Neural Stem Cell Institute, is lead author on a study that investigating human neural development. Dr. Fasano conducted this work while working as a post-doctoral fellow at Memorial Sloan Kettering Cancer Center in the lab of Dr. Lorenz Studer. Dr. Fasano and his colleagues used human embryonic stem cells (hESC) to derive floor plate tissue, an important signaling center during brain development.

The study, Efficient derivation of functional floor plate tissue from human embryonic stem cells, was published in the online edition of *Cell Stem Cell* on April 1, 2010, and will also appear in the journal's print edition. In addition to Dr. Fasano, whose work is funded by NYSCF, a contributor to the study also included NYSCF-Druckenmiller Fellow, Dr. Gabsang Lee.

This is the first study shown to derive floor plate tissue from hESCs. Floor plate development is essential in the development of the brain. While floor plate development has been successful in a dish from non-human models before, the ability to develop floor plate tissue in humans is a significant advance for the study of neurological diseases. "We think this is a significant advance in the field of stem cell biology. For the first time we are able to create this unique population of cells that exists in the very early developing human brain," says Dr. Fasano.

"Understanding how the brain develops will be key in understanding how brain diseases occur such as Parkinson's disease."

"We are very proud of Dr. Fasano. Research like this brings us closer to understanding the major [neurological diseases](#) that affect so many of our friends and family," says Susan L. Solomon, NYSCF's CEO. "In our own NYSCF laboratory, researchers are using human embryonic stem cells to derive cellular models for a wide variety of diseases, as a first step toward developing therapies. NYSCF is very proud to fund the work of young scientists that contributes so significantly to future healthcare. It is a privilege to have Dr. Fasano in our fellowship program."

As advancements in induced pluripotent stem (iPS) cell technology continue, hESC research like that of Dr. Fasano is essential for the field of stem cell research. [Embryonic stem cells](#) are still the gold standard for monitoring pluripotency and differentiation capabilities.

"It is research like this that helps us understand what is causing the development of diseases," said Dr. Kevin Eggan, Chief Scientific Officer of NYSCF. "Chris is one of the premier young scientists in the field of stem cell research and we are excited to have him in our fellowship program."

Provided by New York Stem Cell Foundation

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