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Generation of Integration-free induced pluripotent stem cells from a patient with spina bifida

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## Abstract

A skin biopsy was obtained from a 14-year-old female patient with a history of Myelomeningocele. Dermal fibroblasts were isolated and reprogrammed with Sendai virus (SeV) vectors encoding *OCT3/4*, *SOX2*, *KLF4*, and *c-MYC*. The generated induced Pluripotent Stem Cell (iPSC) clones NTDi4\_09A were free of genomically integrated reprogramming genes, had a stable normal karyotype and expressed pluripotency markers. The iPSCs formed teratomas in mice, which were differentiated towards derivatives of the three germ layers *in vivo*. This iPSC line offers a useful resource to study a genetic profile of a patient with spina bifida.

## Resource utility

Meningomyelocele is a complex congenital malformation. It is unclear exactly what causes spina bifida, likely due to a combination of genetic, environmental and nutritional factors. The

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