



CENTRE FOR STEM CELL RESEARCH
(a DBT-CMC collaboration)

CHRISTIAN MEDICAL COLLEGE
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Centre for Stem Cell Research, Christian Medical College, Vellore.

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This statement is to announce the creation of induced pluripotent stem (iPS) cells at the Centre for Stem Cell Research at Christian Medical College, Vellore.

This centre, which is supported by the Department of Biotechnology of the Ministry of Science and Technology, Government of India, has been established to provide facilities for basic and translational research with stem cells. The scientists working here are engaged in testing stem cell therapies in animal models and conducting human clinical trials in a scientific and ethical manner.

Basic research with stem cells, which also forms a core part of the work here, has led to the creation of these iPS cells. The scientist responsible for this work is Dr. R.V. Shaji. This is a technique by which adult stem cells are modified in such a way that they can function like embryonic stem cells with properties for expansion and differentiation into various tissues. This has only been done with mouse cells at present. We have initiated work with human cells also. This work is significant because it has been done with in-house expertise, perhaps for the first time in India and provides us with a tool to understand diseases better and create therapies for them without relying on external sources for the basic technology or sources of these cells. It is not novel as, after the first report from Japan in 2006, several laboratories around the world have generated such cells. This development should also not be perceived to lead to any immediate therapies for diseases.

This technology, which is currently dependent on viruses to bring about the necessary genetic changes in adult cells, needs much more refinement and assessment of safety in animal studies before it can be offered to patients. This could take many years more of work but this is an exciting new area of research as it provides a way to create embryonic like stem cells from adult cells without using embryos. This can therefore be used for creating several disease and individual specific cells. We should however be cautious as it is still early days of this technology and it remains to be seen how this science will evolve.