

# Stem cells reach standard for use in drug development

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Drug development for a range of conditions could be improved with stem cell technology that helps doctors predict the safety and the effectiveness of potential treatments.

Medical Research Council scientists at the University of Edinburgh have been able to generate cells in the laboratory that reach the gold standard required by the pharmaceutical industry to test [drug safety](#).

The researchers used stem cell technology to generate liver cells – which help our bodies to process drugs.

They found that the cells were equally effective, reaching the same standard, as cells from human liver tissue currently used to assess drug safety.

These [human cells](#) used in drug testing are in short supply and vary considerably due to different donors. As a result they are not an ideal source for drug development.

The stem cell based technique developed in Edinburgh, addresses these issues by offering a renewable production of uniform liver cells in the laboratory.

Dr David Hay of the Medical Research Council (MRC) Centre for Regenerative Medicine at the University of Edinburgh, said: "Differing [genetic information](#) plays a key role in how patients' livers process drugs.

We are now able to efficiently produce human liver cells in the laboratory from different people which model the functional differences in [human genetics](#)."

Researchers hope to generate liver cells, containing different DNA to reflect the genetic variations in metabolism found in the population that could be used to help identify differences in response among patients to certain drugs. The laboratory-generated liver cells could also be used to screen certain drugs that need close monitoring, to optimise patient treatment.

Scientists are working with Edinburgh BioQuarter, with a view to forming a spin-out company to commercialise the research.

**More information:** The research is published in the journal *Stem Cells Translational Medicine*.

Provided by University of Edinburgh

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