ANIMAL TESTING

## Measurement of urea synthesis in cultured stem cell-derived hepatocyte-like cells

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## PARTNERS AND COLLABORATIONS

## Organisation

Name of the organisation Vrije Universiteit Brussel (VUB)
Department Pharmaceutical and Pharmacological Sciences
Specific Research Group or Service In Vitro Toxicology and Dermato-Cosmetology
Country Belgium
Geographical Area Brussels Region

SCOPE OF THE METHOD

| The Method relates to | Human health |
| :--- | :--- |
| The Method is situated in | Basic Research |
| Type of method | In vitro - Ex vivo |
| Specify the type of cells/tissues/organs | Human stem cells |

## DESCRIPTION

## Method keywords

Stem cells
Hepatocytes
Hepatotoxicity
urea

## Scientific area keywords

hepaticdifferentiation
hepatic toxicity
Hepatotoxicity
Cell culture
cellular programming

## Method description

The present standard procedure describes a protocol for measuring the urea concentration in supernatant of human stem cell-derived hepatocyte-like cells. This procedure relies on a chromogenic reagent that forms a colored complex specifically with urea. The latter can be measured and is directly proportional to the urea concentration in the sample.

## Lab equipment

Biosafety cabinet;
Multiplate reader;
Thermostated bath.

## Method status

History of use
Internally validated

## PROS, CONS \& FUTURE POTENTIAL

## Advantages

The current protocol represents a simple and direct method to quantitatively measure the urea concentration in human stem cell-derived hepatocyte-like cell cultures. This assay has no harmful effect on the cultured cells. Therefore, after incubation of the cells with the substrate (ammonium chloride ( NH 4 Cl )), the cultures can be maintained.

## Future \& Other applications

Can be applied to other types of in vitro systems of hepatocytes.

## REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION

## References

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## Associated documents

Urea synthesis.doc

