

IN VITRO NASH MODELS

SCIENTIFIC BACKGROUND

Non-Alcoholic Fatty Liver Disease (NAFLD) is one of the types of liver diseases that occur when fat is deposited (*steatosis*) in the liver for reasons other than excessive alcohol use.

Non-Alcoholic Steatohepatitis (NASH) is the most extreme form of NAFLD.

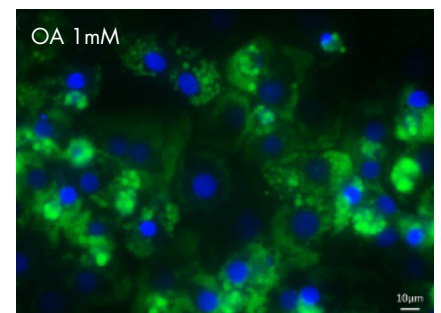
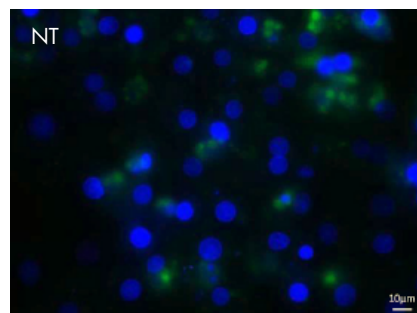
ASSAY INFORMATION

Cell type	Primary human, mouse, rat hepatocytes
Method	Flow cytometry
Endpoint	Lipid accumulation (% of control)
Standard reference	Oleic acid (<i>induction</i>) & Oltipraz (<i>reversion</i>)

ASSAY PRINCIPLE

Primary hepatocytes from rat, mouse (*in-house two step collagenase perfusion*) or human *specific donors cells validated for multiple readouts* are plated in 96w plates. Cells are then treated with different concentrations of Oleic Acid (OA) for 48 hours (*repeated each day*) to induce lipid accumulation in the cells, mimicking a NAFLD state. Oltipraz (*an anti-steatotic reference compound, inhibitor of the activity of liver X receptor alpha*) can be added as protective co-treatment.

At the end of the treatment, cells are stained using a liposensor probe (*triglyceride TG*) and fluorescence signals are analyzed on each individual cell using a high throughput flow cytometer.



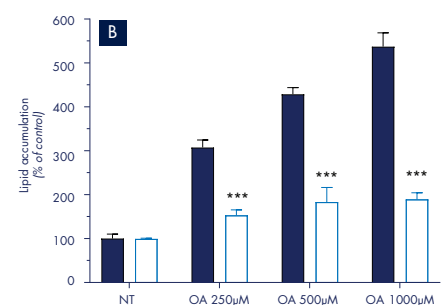
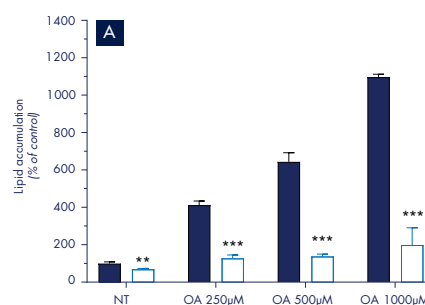
Figures: Example of triglycerides staining of primary human hepatocytes in untreated condition (NT) or Oleic Acid (OA). Nuclei staining in blue and TG staining in green show clear lipid droplet accumulation in cells cytoplasm.

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- Click for more data on our *in vitro* and *in vivo* hepatology services here: www.fluofarma.com
www.porsolt.com
- Our presentation of hepatotoxicity services at SPS 2017: <http://bit.ly/2Dakr5C>
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REPRESENTATIVE RESULTS

Examples of NAFLD induction in human primary hepatocytes (A) or mouse hepatocytes (B). Accumulation of TG after Oleic Acid (OA) treatment is clear. Co-treatment with Oltipraz 100µM inhibited the TG accumulation in the cells.



■ NT □ Oltipraz 100µM | Student T-test p value in comparison with corresponding NT condition: * = p<0,05 ; ** = p<0,01 ; *** = p<0,001

CONTACT



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