Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

# Novel Therapeutic for the Treatment of NASH

## *Background*

The globally high prevalence of obesity is associated with the development of chronic liver diseases characterised by the build up of extra fat in liver cells. Chronic liver diseases range from steatosis to NASH featuring inflammation, hepatocyte death and various degrees of fibrosis. NASH is the most sever form of non-alcoholic fatty liver disease and may lead to liver cancer and end-stage liver disease. In addition, 75% of a growing diabetes community suffer from NASH. Currently, there is no recommended treatment that is classed as safe and effective worldwide for the disease NASH (60% of patients non-responsive). The last line of defence treatment is a liver transplant and pending need will outweigh demand unless a safe and effective treatment emerges soon. Enhancements in clinical biomarkers are providing a pathway to enabling new therapeutics.

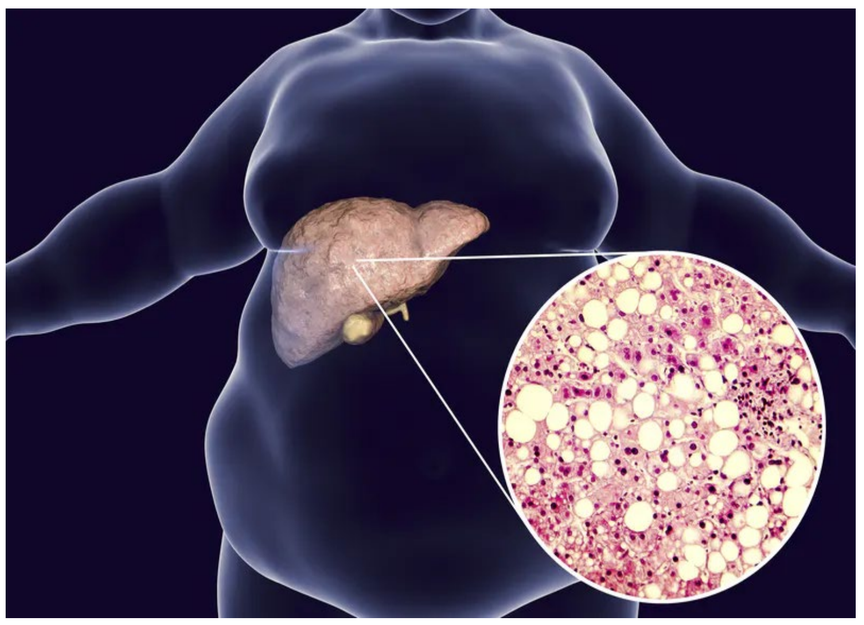
## *The Problem With Current Solutions*

Current Clinical Guidelines state the current pharmacotherapies for NASH/NAFLD are **Not Recommended** due to:

- Insufficient evidence to recommend
- Evidence to avoid use for some clinical indications

No single FDA-approved pharmacotherapy for NASH

- Significant interest in novel agents that may meaningfully alter the natural history of the disease



## *Proposed Solution*

Researchers at Trinity have developed a novel panel of analogues which have been synthesised and evaluated in vitro. The lead candidate, compound N, has been demonstrated to improve NASH resolution:

- Liver cell cyto-protective mechanisms
- Modulation of the Unfolded Protein /ER stress response
- Impacting Lipid metabolic factors
- Anti-inflammatory mechanisms

## *Benefits*

**Compound N** has been demonstrated to improve NASH resolution:

- ✓ Reduced Liver weight & Improvements in lipid metabolism
- ✓ Reduced levels of AST/ALT liver damage markers
- ✓ Improved NAS score –encompassing cell damage, inflammation and fibrosis
- ✓ In all animal models markers of liver damage were decreased to a greater extent than the current commercial therapeutic used for liver disease-UDCA

**Technology Sector**
Life Sciences, Novel therapeutic

**Patent Details**
Priority patent filed August 2019

**Opportunity**
Available for partnering or for further collaborative work if required


**Researcher(s)**
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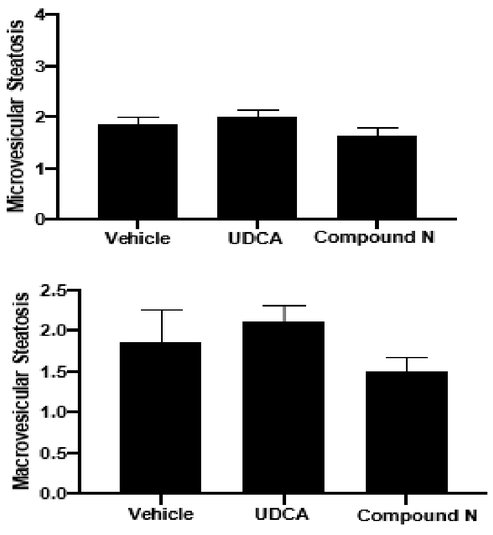
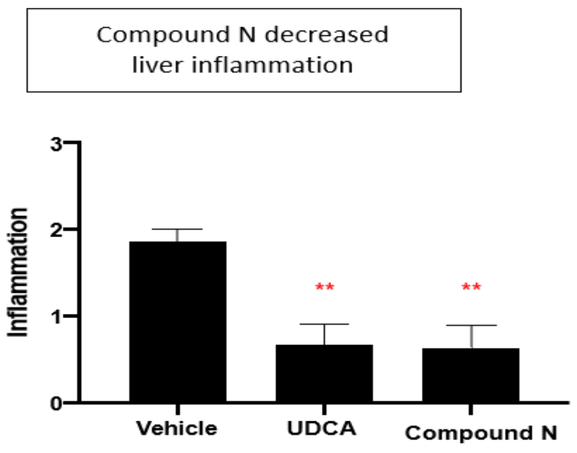
**Reference:**
JG01-593-01

Compound N decreased liver steatosis (excess lipid accumulation in liver cells)




Compound N decreased liver inflammation







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