

## Comparison of toxicity data of two TLR4 inhibitors for the treatment of non-alcoholic fatty liver disease

Macie Matta

Ohio University, USA

### Abstract

Nonalcoholic fatty liver disease (NAFLD) is a manifestation of both metabolic and inflammatory disease recognized as the leading chronic liver disease worldwide. NAFLD is included in a spectrum involving hepatocyte steatosis that progresses through nonalcoholic steatohepatitis (NASH), fibrotic cirrhosis, and eventual hepatocellular carcinoma (HCC). High fat diets (HFDs) promote NAFLD, at least in part, via free fatty acid (FFA) activation of toll-like receptor 4 (TLR4) signaling. We have developed a novel compound, COB-214, that blocks HFD-induced NAFLD in mice by blocking FFA-activated TLR4 signaling.

**Objective:** We compared COB-214 to JKB-121, a purported TLR4 inhibitor currently being tested in clinical trials on human subjects, for their respective toxicities on human and murine hepatocytes and murine macrophages in culture in order to assess COB-214's relative safety.

**Methodology:** Three cell lines were cultured; human hepatocytes (HepG2), mouse hepatocytes (AML-12), and mouse macrophages (RAW 264.7). The effects of COB-214 and JKB-121 on cell viability were evaluated using an MTS assay. The MTS assay was performed on cells treated with both compounds at varying concentrations and toxicity was assessed via cell viability.

**Result:** Cell viability was largely unaffected even at the highest drug concentrations (100-200  $\mu$ M).



### Biography:

Mosaed Alhumaimess is Associate professor at Jouf University, SA. He started his research on Physical chemistry at King Saud University, SA. During his Ph.D. he joined research groups at Cardiff University, United Kingdom. He obtained Ph.D on 2012, and started his academic carrier as assistant professor at Jouf University, and promoted to Associate professor on 2019. Dr. Mosaed has successfully published several papers related to the area of designing new nanomaterials for catalysis applications.

[International Conference on Hepatitis](#); Webinar- October 19-20, 2020.

### Abstract Citation:

Comparison of toxicity data of two TLR4 inhibitors for the treatment of non-alcoholic fatty liver disease, Hepatitis Meet 2020, International Conference on Hepatitis; Webinar, October 19-20, 2020

[\(https://hepatitis.conferenceseries.com/europe/\)](https://hepatitis.conferenceseries.com/europe/)

