Anti-Inflammatory Therapeutic

**OCR Number:** OCR 6426

**Description:**

Inflammasome-mediated inflammatory disease treatment with $\beta$-hydroxybutyrate and similar compounds

- NLRP3 inflammasome activation is implicated in a number of diseases such as gout, atherosclerosis, type-2 diabetes, Alzheimer’s disease, multiple sclerosis, Muckle-Wells Syndrome (MWS), Familial Cold Autoinflammatory Syndrome (FCAS).
- The ketone body $\beta$-hydroxybutyrate (BHB) as well as $\gamma$-hydroxybutyric acid (GHB) can inhibit NLRP3 inflammasome activation. BHB delivery in vivo reduced NLRP3 inflammasome-mediated Interleukin (IL)-1$\beta$ secretion, reversing phenotypes in animal models with gout, MWS, FCAS, and peritonitis.
- **Intellectual property** – A provisional patent application has been filed

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Reduction of neutrophil infiltration as well as NLRP3 inflammasome and related cytokines in the ketogenic diet fed mouse model.