
Research Highlights

- Effects of ibuprofen against type 2 diabetes (T2D) were tested by the use of the Zucker diabetic fatty (ZDF) rat model
- Ibuprofen decreased A1c but induced a high insulin release with improved glucose tolerance only after early time points (i.g., 15 and 30 min) resulting in a non-significant decline of AUC values and translating into a high HOMA-IR
- Ibuprofen showed antihyperlipidemic effects as indicated by lowered cholesterol and free fatty acids
- Ibuprofen showed anti-inflammatory effects as indicated by inhibition of cytokine/chemokine signaling (e.g.; COX-2, ICAM-1 and TNF- α) and/or upregulation of anti-inflammatory cytokines (e.g.; IL-4 and IL-13)
- In conclusion, our ZDF animal study showed positive effects of ibuprofen against diabetic complications such as inflammation and dyslipidemia but also demonstrated the risk of causing insulin resistance