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Peer Review

# Review of: "Development of a Type 2 Diabetes Mellitus Model in Rats with Administration of High-Fat Diet and Streptozotocin"

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The HFD/STZ model was previously modified by Zhang et al. (1), wherein the STZ-treatment comprised multiple low doses of STZ instead of a single dose. This approach has been reported to induce an inflammation-mediated destruction of the b-cells instead of the fast induction of the b-cell death induced by a single dose of STZ (1).

When the STZ dose is changed from a single high dose to a single low dose or multiple lower doses of STZ, researchers tend to agree on the HFD/STZ rat as a suitable model of type 2 diabetes (1–4).

This toxin is usually administered intraperitoneally (i.p.) via single or multiple injections of varying dosages, ranging from 25 to 45 mg/kg BW in rats and 40 to 100 mg/kg BW in mice (5,6).

Furthermore, Mansor et al. (7) showed that low doses (15–25 mg/kg BW) of STZ in Wistar rats, following 3 weeks of HFD feeding (60% calories from fat), induced a T2DM phenotype, whereas 30 mg/kg BW of STZ more closely recapitulated type 1 diabetes. Identical results were recently reported by Guo et al. (8)

Finally, it should be emphasized that diet-induced regimens combined with multiple low doses of STZ injection have been already reported to closely replicate the pathophysiological mechanisms underlying T2DM progression.

**Given the lack of novelty and scientific contribution, I do not find the manuscript suitable for publication in its current form and recommend its rejection.**

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**Attachments:** available at https://doi.org/10.32388/MUJ4BL

## Declarations

**Potential competing interests:** No potential competing interests to declare.