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PEER-REVIEW REPORT

Name of journal: World Journal of Diabetes

Manuscript NO: 61247

Title: Possible drug for type 2 diabetes-decarboxylated osteocalcin triggers glucose uptake in MG63 cells

Reviewer's code: 05821146
Position: Peer Reviewer
Academic degree: MD
Professional title: Doctor
Reviewer's Country/Territory: United Kingdom
Author's Country/Territory: China

Manuscript submission date: 2021-01-21
Reviewer chosen by: Jin-Lei Wang
Reviewer accepted review: 2021-02-22 01:05
Reviewer performed review: 2021-03-02 11:00
Review time: 8 Days and 9 Hours

Scientific quality	[ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[ ] Yes [Y] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous Conflicts-of-Interest: [ ] Yes [Y] No

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SPECIFIC COMMENTS TO AUTHORS

A small number of osteocalcin forms contain one or more uncarboxylated Glu residues and are referred to as undercarboxylated osteocalcin. Carboxylated osteocalcin can also be decarboxylated at Glu residues under acidic conditions and is thus converted to decarboxylated osteocalcin. Together, undercarboxylated osteocalcin and decarboxylated osteocalcin can be referred to as uncarboxylated osteocalcin, which is closely related to energy metabolism. Uncarboxylated osteocalcin can improve glucose metabolism, prevent type 2 diabetes and decrease the severity of obesity in mice with type 2 diabetes. Both the direct effects of uncarboxylated osteocalcin on glucose uptake in bone tissues and the underlying mechanisms remain unknown. In this study, the authors investigated the effects of decarboxylated osteocalcin on glucose uptake in human osteoblast-like osteosarcoma cells and the possible signal pathways involved. This study is very interesting. SiRNA-mediated silencing of HIF-1α, MG63 cells treatments are clearly described. Results are very informative, and well discussed. The reviewer has some minor suggestions. 1. The manuscript is well written. However, a minor editing is required. Both the format and the language. Some minor language polishing should be revised. 2. Figures 3 and figures 4 are not in high resolution, please update the images. 3. References should be edited according to the journal's guidelines.