Accepted Manuscript

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Accepted Date:

PII: S0010-8545(17)30089-9 DOI: http://dx.doi.org/10.1016/j.ccr.2017.04.007 Reference: CCR 112442 To appear in: Coordination Chemistry Reviews **Received Date:** 28 February 2017 **Revised Date:** 13 April 2017

20 April 2017





Please cite this article as: T. Jakusch, T. Kiss, In vitro study of the antidiabetic behavior of vanadium compounds, Coordination Chemistry Reviews (2017), doi: http://dx.doi.org/10.1016/j.ccr.2017.04.007

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ACCEPTED MANUSCRIPT

In vitro study of the antidiabetic behavior of vanadium compounds

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Keywords: diabetes, insulin mimetics, vanadium complexes, biospeciation, LMM-binders, HMM-binders, serum, whole blood speciation

Abstract

The paper deals with the so far most efficient antidiabetic transition metal compound family. It focuses on the species distribution of the most frequently studied vanadium(IV,V) compounds in biology: in the gastro-intestinal tract (being important in absorption of the compounds), the blood serum (very likely the main route of their transport), the whole blood (recently the role of the red blood cells are also assumed in their transport) and in the cells (where glutathione and ATP may be the most important redox and complex formation partners of the original vanadium-"insulinomimetics").

The discussed details fit into the general view, but far from a complete and clear understanding of the pharmacodynamics of these antidiabetics. A lot more in vitro and mostly in vivo studies are necessary to justify their real clinical use.

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Insulin enhancing metal complexes in biological fluids

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