Abstract


Molecular mechanisms of chromium in alleviating insulin resistance.

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BACKGROUND: Type 2 diabetes is often associated with obesity, dyslipidemia and cardiovascular anomalies and is a major health problem approaching global epidemic proportions. Insulin resistance, a prediabetic condition, precedes the onset of frank type 2 diabetes and offers potential avenues for early intervention to treat the disease.

FINDINGS: Although lifestyle modifications and exercise can reduce the incidence of diabetes, compliance has proved to be difficult, warranting pharmacological interventions. However, most of the currently available drugs that improve insulin sensitivity have adverse effects. Therefore, attractive strategies to alleviate insulin resistance include dietary supplements. One such supplement is chromium, which has been shown to reduce insulin resistance in some, but not all, studies. Furthermore, the molecular mechanisms of chromium in alleviating insulin resistance remain elusive.

SUMMARY: This review examines emerging reports on the effect of chromium, as well as molecular and cellular mechanisms by which chromium may provide beneficial effects in alleviating insulin resistance.

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