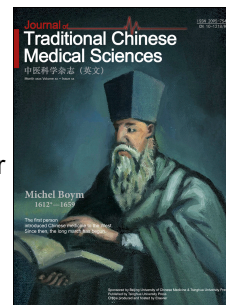


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Combination of *Astragalus membranaceus* and *Euonymus alatus* (THUNB.) SIEB. for treatment of diabetes: a network-based pharmacology research

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Abstract

Objective: To find the target genes in combination of astragalus root (*Astragalus membranaceus*) and spindle tree wings (*Euonymus alatus* (THUNB.) SIEB.) (*Qijian Heji*) with the function of regulating blood glucose levels in kk mice by real-time fluorescence quantitative PCR (RT-PCR). To achieve the primary exploration on the material basis for *Qijian heji* to improve the blood glucose levels of type 2 diabetic kk mice. **Methods:** We applied RT-PCR to detecting the expression of gene targets in kidney tissues of type 2 diabetes model kk mice. The detected gene targets were predicted by the network pharmacology method in the early stage of the project. Through the observation of the hypoglycemic effect of different ratios of *Qijian Heji*, the optimal proportion was determined and then used to conduct research of material basis. **Results:** Continuous administration of *Qijian Heji* (astragalus root : spindle tree wings = 3:1) for six weeks resulted in significantly lowering blood glucose levels in mice in the fourth week, dropping from 33.3 to 21.9 mmol/L; this lower level was maintained in the fifth to sixth weeks. Blood glucose values in the positive drug group decreased from 33.3 to 21.85 mmol/L in the fourth week and maintained steady decreasing in the fifth and sixth weeks.

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