LS03-139 - Identification of relevant gene product interactions associated with capillary changes due to diabetes, using molecular networks

Zusammenfassung

The goal of the project is to analyse the interaction of gene products that form the basis of capillary changes in connection with diabetes. This could help to define more precisely the sphere of action of new drugs.

Despite the usually very diverse clinical picture of diabetes (diabetes mellitus), certain blood capillaries of many patients show a marked thickening of the basal membrane. These changes, which can be ascertained by means of an electron microscope, can serve as markers for the diagnosis of so-called diabetic microangiopathy (a late syndrome of diabetes often ending in death). Gene expression analyses are to provide the basis for estimating which genes play an essential part in diabetes (step 1). From the results a virtual network of gene products that is connected to the thickening of the basal membrane is to be constructed by means of bioinformatics (step 2). Subsequently, the key connections of the network will be confirmed using experimental approaches (step 3). This procedure can be applied to a multitude of analogous network problems/diseases.

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Status: Abgeschlossen (01.03.2004 – 31.03.2008)

Weiterführende Links zu den beteiligten Personen und zum Projekt finden Sie unter
https://www.wwtf.at/funding/programmes/ls/LS03-139/