Diabetic nephropathy is major microvascular complication leading to end stage renal silure and CVD associated death in diabetic patients, thus accounts for increased mortality and morbidity in these patients. Clinical definition of DN is presence of proteinuria over 0.5 g per 24h. It occurs in 15 – 30 % of type 1 diabetic patients after 20 years of diabetes duration, whereas prevalence in type 2 diabetes is more variable, ranging form 5 to 40 %. The fact that only subset of diabetic patients eventually develop DN despite long-term severe chronic hyperglycemia, together with the evidence of familial clustering of DN and various ethnic/racial prevalence of DN indicie hereditary predisposition to DN, independent form predisposition to diabetes mellitus.

The conception of combination of several "bad" genes and environmental factors, such are glycemic control, blood pressure control or hypertension, was established as model of DN inheritance. To reveal genetic markers, implicated in renal diabetic complications, two main strategies have been used in DN research – linkage analysis and population based association studies.

Present work shows new results of the investigation on DN predisposition markers. Several polymorphisms in the genes encoding transcription factor NFB and its inhibitor IB, transcription factor PPAR and serum dipeptidase Carnosinase were tested.