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بسم الله الرحمن الرحيم

مركز الشبكات وتكنولوجيا المعلومات

قسم التوثيق الإلكتروني



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جامعة عين شمس

التوثيق الإلكتروني والميكرو فيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
على هذه الأقراص المدمجة قد أعدت دون أية تغييرات





Association of Low-Density Lipoprotein Receptor-Related Protein-5 (*LRP5*) 4037C>T Polymorphism with Nephropathy in Patients with Type 1 Diabetes Mellitus

Thesis

*Submitted For Partial Fulfillment of Master Degree in
Clinical Pathology*

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2022

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

سببنا أنك لا تعلم لنا
إلا ما علمتنا أنك أنت
العليم العظيم

صدق الله العظيم

سورة البقرة الآية: ٣٢

Acknowledgment

*First and foremost, I feel always indebted to **Allah**, the Most Kind and Most Merciful.*

*I'd like to express my respectful thanks and profound gratitude to **Prof. Dr. Hala Abdel Al Ahmed**, Professor of Clinical Pathology - Faculty of Medicine- Ain Shams University for her keen guidance, kind supervision, valuable advice, instructions and continuous encouragement, which made possible the completion of this work.*

*I am also delighted to express my deepest gratitude and thanks to **Dr. Doha Mostafa Awad**, Assistant Professor of Clinical Pathology, Faculty of Medicine, Ain Shams University, for her guidance, active participation and constant help throughout this work.*

*I am deeply thankful to **Dr. Rasha El Adawy Shaaban**, Pediatrics, Endocrinology and Diabetes, Faculty of Medicine, Ain Shams University, for her great help, cooperation and guidance.*

I would like to express my hearty thanks to all my family for their support till this work was completed.

Last but not least my sincere thanks and appreciation to all patients participated in this study.

Norhan Hossam El-deen Ibrahim Ahmed

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List of Abbreviations

Abb.	Full term
<i>A:</i>	<i>Adenine</i>
<i>AAb:</i>	<i>Autoantibody</i>
<i>ACR:</i>	<i>Albumin to creatinine ratio</i>
<i>AD:</i>	<i>Autosomal dominant</i>
<i>ADA:</i>	<i>American Diabetes Association</i>
<i>ADP:</i>	<i>Adenosine diphosphate</i>
<i>ADPKD:</i>	<i>Autosomal dominant polycystic kidney disease</i>
<i>AGEs:</i>	<i>Advanced glycation end-products</i>
<i>Ala:</i>	<i>Alanine</i>
<i>APC:</i>	<i>Antigen presenting cells</i>
<i>Apo-E:</i>	<i>Apolipoprotein E</i>
<i>APS I:</i>	<i>Autoimmune polyendocrine syndrome type I</i>
<i>AR:</i>	<i>Autosomal recessive</i>
<i>ATP:</i>	<i>Adenosine triphosphate</i>
<i>BCR:</i>	<i>B cell receptor</i>
<i>BMD:</i>	<i>Bone mineral density</i>
<i>BMI:</i>	<i>Body mass index</i>
<i>BP:</i>	<i>Blood pressure</i>
<i>C/EBPα:</i>	<i>CCAAT/enhancer binding protein alpha</i>
<i>C:</i>	<i>Cytosine</i>
<i>CHE:</i>	<i>Cholesterol esterase</i>
<i>CHO:</i>	<i>Cholesterol oxidase</i>
<i>Ck1:</i>	<i>Casein kinase 1</i>
<i>CKD:</i>	<i>Chronic kidney disease</i>
<i>CTLA4:</i>	<i>Cytotoxic T lymphocyte-associated protein (CTLA4)</i>
<i>CVD:</i>	<i>Cardiovascular disease</i>

List of Abbreviations (Cont...)

Abb.	Full term
<i>CXCL-1:</i>	<i>Chemokine ligand-1</i>
<i>DAISY:</i>	<i>Diabetes Auto Immunity Study in the Young</i>
<i>DC:</i>	<i>Dendritic cells</i>
<i>DKA:</i>	<i>Diabetic keto-acidosis</i>
<i>Dkk1:</i>	<i>Dickkopf-1</i>
<i>DN:</i>	<i>Diabetic nephropathy</i>
<i>DNA:</i>	<i>Deoxyribonucleic acid</i>
<i>dNTP:</i>	<i>Deoxyribonucleotide triphosphate</i>
<i>DPN:</i>	<i>Diabetic sensorimotor polyneuropathy</i>
<i>Dsh:</i>	<i>Disheveled</i>
<i>ECL:</i>	<i>Electrochemiluminescence</i>
<i>EGF:</i>	<i>Epidermal growth factor</i>
<i>eGFR:</i>	<i>Estimated glomerular filtration rate</i>
<i>ELISA:</i>	<i>Enzyme-linked immunosorbent assay</i>
<i>ELISPOT:</i>	<i>Enzyme-linked immunosorbent spot assay</i>
<i>ERBB3:</i>	<i>Erb-b2 receptor tyrosine kinase 3</i>
<i>ERK:</i>	<i>Extracellular signal-regulated kinase</i>
<i>FBG:</i>	<i>Fasting blood glucose</i>
<i>FDR:</i>	<i>First degree relatives</i>
<i>FEVR:</i>	<i>Familial exudative vitreoretinopathy</i>
<i>FPG:</i>	<i>Fasting plasma glucose</i>
<i>fT4:</i>	<i>Free thyroxine</i>
<i>FZD:</i>	<i>Frizzled receptors</i>
<i>G:</i>	<i>Guanine</i>
<i>G6P-DH:</i>	<i>Glucose-6-phosphate dehydrogenase</i>
<i>GA:</i>	<i>Glycated albumin</i>
<i>GAD-65:</i>	<i>65- glutamic acid decarboxylase</i>
<i>GAPDH:</i>	<i>Glyceraldehyde 3-dehydrogenase</i>

List of Abbreviations (Cont...)

Abb.	Full term
<i>GK:</i>	<i>Glycerol kinase</i>
<i>GLP-1:</i>	<i>Glucagon-like peptide -1</i>
<i>Gly:</i>	<i>Glycine</i>
<i>GPO:</i>	<i>Glycerol phosphate oxidase</i>
<i>GSK3-β:</i>	<i>Glycogen synthase kinase 3 beta</i>
<i>GWAS:</i>	<i>Genome wide association studies</i>
<i>H₂O₂:</i>	<i>Hydrogen peroxide</i>
<i>HbA1C:</i>	<i>Glycated hemoglobin</i>
<i>HBM:</i>	<i>High bone mass</i>
<i>HDL-C:</i>	<i>High-density lipoprotein cholesterol</i>
<i>HK:</i>	<i>Hexokinase</i>
<i>HLA:</i>	<i>Histocompatibility Leukocyte Antigen</i>
<i>HPLC:</i>	<i>High-performance liquid affinity chromatography</i>
<i>IA:</i>	<i>Insulin antigen</i>
<i>IA2:</i>	<i>Insulinoma-associated protein 2</i>
<i>IDDM:</i>	<i>Insulin dependent diabetes mellitus</i>
<i>IDF:</i>	<i>International Diabetes Federation</i>
<i>IFG:</i>	<i>Impaired fasting glucose</i>
<i>IFH1:</i>	<i>Interferon induced with helicase C domain 1</i>
<i>IFN-γ:</i>	<i>Interferon gamma</i>
<i>IGT:</i>	<i>Impaired glucose tolerance</i>
<i>IL:</i>	<i>Interleukins</i>
<i>ILR2-α:</i>	<i>Interleukin-2 receptor subunit alpha</i>
<i>INS:</i>	<i>Insulin gene</i>
<i>IPEX:</i>	<i>Polyendocrinopathy enteropathy X-linked syndrome</i>
<i>IQR:</i>	<i>Interquartile range</i>

List of Abbreviations (Cont...)

Abb.	Full term
<i>ISPAD:</i>	<i>International Society for Pediatric and Adolescent Diabetes</i>
<i>KLF-15:</i>	<i>Krüppel-like factor 15</i>
<i>Krm:</i>	<i>Kremen</i>
<i>LC-MS/MS:</i>	<i>Liquid chromatography-tandem mass spectrometry</i>
<i>LDL-C:</i>	<i>Low-density lipoprotein cholesterol</i>
<i>LDLR:</i>	<i>Low-density lipoprotein receptors</i>
<i>LEF:</i>	<i>Lymphoid enhancer factor</i>
<i>LRP5:</i>	<i>Low-density lipoprotein receptor related protein-5</i>
<i>M:</i>	<i>Methionine</i>
<i>MGB:</i>	<i>Minor groove binder</i>
<i>MHC:</i>	<i>Major histocompatibility complex</i>
<i>Mi-RNA:</i>	<i>Micro Ribonucleic acid</i>
<i>n:</i>	<i>Number</i>
<i>NAD:</i>	<i>Nicotinamide adenine dinucleotide</i>
<i>NDP:</i>	<i>Norrie disease protein</i>
<i>OGTT:</i>	<i>Oral glucose tolerance test</i>
<i>OPPG:</i>	<i>Osteoporosis-pseudoglioma syndrome</i>
<i>PARP:</i>	<i>Poly- adenosine diphosphate ribose polymerase</i>
<i>PBMC:</i>	<i>Peripheral blood mononuclear cells</i>
<i>PCR:</i>	<i>Polymerase chain reaction</i>
<i>PCR-RFLP:</i>	<i>Polymerase chain reaction-restriction fragment length polymorphism</i>
<i>PI/C:</i>	<i>Proinsulin to c-peptide ratio</i>
<i>PKC:</i>	<i>Protein kinase C</i>
<i>POD:</i>	<i>Peroxidase</i>

List of Abbreviations (Cont...)

Abb.	Full term
<i>PPARγ</i> :	<i>Peroxisome proliferator-activated receptor gamma</i>
<i>PTMs</i> :	<i>Post-translational modifications</i>
<i>PTPN22</i> :	<i>Protein tyrosine phosphatase non-receptor type 22 gene</i>
<i>RIA</i> :	<i>Radio-immunoassay,</i>
<i>RNF43</i> :	<i>Ring finger 43</i>
<i>ROS</i> :	<i>Reactive oxygen species</i>
<i>RPG</i> :	<i>Random plasma glucose</i>
<i>SD</i> :	<i>Standard deviation</i>
<i>SLC30A8</i> :	<i>Solute carrier family 30-member 8</i>
<i>SNP</i> :	<i>Single nucleotide polymorphism</i>
<i>SNPs</i> :	<i>Single nucleotide polymorphisms</i>
<i>SP-1</i> :	<i>Specificity protein 1</i>
<i>T</i> :	<i>Thymine</i>
<i>T1DM</i> :	<i>Type 1 diabetes mellitus</i>
<i>T2DM</i> :	<i>Type 2 diabetes mellitus</i>
<i>TC</i> :	<i>Total cholesterol</i>
<i>TCF</i> :	<i>T-cell factor</i>
<i>TCR</i> :	<i>T cell receptor</i>
<i>TG</i> :	<i>Triglycerides</i>
<i>TNF</i> :	<i>Tumor necrosis factors</i>
<i>TPO</i> :	<i>Thyroid peroxidase antibodies</i>
<i>Treg cells</i> :	<i>Regulatory T cells</i>
<i>TSH</i> :	<i>Thyroid stimulating hormone</i>
<i>UBASH3A</i> :	<i>Ubiquitin associated and SH3 domain- containing A</i>
<i>V</i> :	<i>Valine</i>
<i>VLDL</i> :	<i>Very-low-density lipoprotein</i>

List of Abbreviations (Cont...)

Abb.	Full term
<i>WB:</i>	<i>Wash buffer</i>
<i>ZNRF3:</i>	<i>Zinc and ring finger 3</i>
<i>ZnT8:</i>	<i>Zinc transporter 8</i>
<i>β-cells:</i>	<i>Beta cells</i>
<i>β-propeller:</i>	<i>Beta propeller</i>
<i>χ^2:</i>	<i>Chi-square test</i>
<i>%:</i>	<i>Percentage</i>
<i>$\bar{x}$:</i>	<i>Mean</i>
<i>2hr-PG:</i>	<i>2-hour post-load plasma glucose</i>