



МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ  
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ  
КАФЕДРА ІНОЗЕМНИХ МОВ  
ЛІНГВІСТИЧНИЙ НАВЧАЛЬНО-МЕТОДИЧНИЙ ЦЕНТР

## **МАТЕРІАЛИ**

**XIV ВСЕУКРАЇНСЬКОЇ  
НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ  
СТУДЕНТІВ, АСПІРАНТІВ ТА ВИКЛАДАЧІВ  
ЛІНГВІСТИЧНОГО НАВЧАЛЬНО-МЕТОДИЧНОГО ЦЕНТРУ  
КАФЕДРИ ІНОЗЕМНИХ МОВ**

**«TO MAKE THE WORLD SMARTER AND SAFER»**

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a chance to raise their own children. Through cloning, humanity could also bring back to life species of animals that have died out for some reason or even dinosaurs.

#### References

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#### ASSOCIATION ANALYSIS BETWEEN BGLAP RS1800247-POLYMORPHIC VARIANT AND TYPE 2 DIABETES MELLITUS DEVELOPMENT AMONG NON-OBESE UKRAINIANS

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**Introduction.** Type 2 diabetes mellitus (T2DM) belongs to the diseases with hereditary predisposition, so both genetic and environmental factors influence its development. Recent studies showed, that the bone tissue regulates systemic glucose metabolism through the secretion of undercarboxylated osteocalcin (uOCN) into the systemic circulation. It is known, that uOCN binds to the GPRC6A-receptor and, therefore, stimulates insulin expression and secretion in  $\beta$ -cells, as well as increases muscles, liver and adipose tissue sensitivity for insulin. Thus, the thymine to cytosine transition in OCN gene (*BGLAP*) promoter region (rs1800247) may change the gene expression level and affect T2DM emergence.

**The aim** of the study was to investigate the association between *BGLAP* rs1800247 single nucleotide polymorphism (SNP) and T2DM development among non-obese Ukrainians.

**Materials and methods.** The study enrolled 181 Ukrainians with body mass index (BMI) value less, than 30 kg/m<sup>2</sup>: 94 patients with diagnosed T2DM (mean BMI [ $\pm$  SD] 26.18  $\pm$  2.16 kg/m<sup>2</sup>) and 87 control subjects (mean BMI 25.25  $\pm$  2.61 kg/m<sup>2</sup>) without any carbohydrate metabolism disorders. Whole venous blood was used for DNA extraction. The polymerase chain reaction-restriction fragments length polymorphism analysis (PCR-RFLP) was performed for genotyping. All statistical calculations were done using SPSS 22.0 (Chicago, IL, USA). The two-tailed P-value less than 0.05 was considered as statistically significant.

**Results.** The following distribution of genotypes in comparison groups was found: TT – 60.6%, TC – 29.8%, CC – 9.6% for T2DM patients and TT – 62.1%, TC – 31%, CC – 6.9% for control subjects. There were no statistically significant differences in genotypes frequencies distribution according to the  $\chi^2$ -test ( $\chi^2 = 0.429$ ;  $P = 0.807$ ). The link between *BGLAP* rs1800247 SNP and T2DM development was explored under dominant, recessive, over-dominant and additive regression models. The lack of association for each model of inheritance neither before nor after the adjustment to age, sex, smoking habit and arterial hypertension presence ( $P_c > 0.05$  and  $P_a > 0.05$ , respectively) was found. Moreover, BMI was not an effect modifier ( $P_a^{int} > 0.05$ ).

**Conclusion.** There was no association between *BGLAP* rs1800247-polymorphic locus and T2DM emergence among non-obese Ukrainians.

## POWER THERAPY FOR THE BRAIN

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People suffering from diseases such as epilepsy, Parkinson's or Alzheimer's, are waiting for investigation of US Department of Defense. It helps through deep stimulation of the