

## Перша самостійна публікація у рейтинговому виданні за кордоном

У науковому часописі *Journal of Cell and Molecular Biology* (2012; Volume 10, Issue 1, P. 19-26) опубліковано статтю співробітників медичного інституту СумДУ О.В.Атамана, В.Ю.Гарбузової, Ю.О.Атамана, О.І.Матлай, О.А.Обухової

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**Investigation of the MGP promoter and exon 4 polymorphisms in patients with ischemic stroke in the Ukrainian population**

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<http://jcm.balikesir.edu.tr/10-1-asp>  
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У роботі представлено результати вивчення трьох поліморфізмів гена MGP (T-138C, G-7A, Thr83Ala) у хворих з ішемічним інсультом і в контрольній групі пацієнтів.

Опублікована стаття є першою самостійною (без співавторства з науковцями інших установ і навчальних закладів) публікацією за результатами, одержаними в науковій лабораторії молекулярно-генетичних досліджень СумДУ.

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## Investigation of the MGP promoter and exon 4 polymorphisms in patients with ischemic stroke in the Ukrainian population

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### Abstract

Matrix  $\gamma$ -carboxyglutamic acid protein (MGP) is a vitamin K-dependent protein playing a role in preventing arterial calcification. In the present study, we aimed to investigate the relationship between single nucleotide polymorphisms of MGP gene and ischemic stroke (IS) in the Ukrainian population. 124 patients with IS and 124 healthy controls were recruited to the study. MGP SNPs were examined using PCR-RFLP methodology. The distribution of homozygous carriers of the major allelic variant, and heterozygous and homozygous minor allele variants of the T-138C MGP promoter polymorphism (rs1800802) in patients with IS was 61.2%, 31.2% and 7.6%, respectively. The corresponding distributions of the variants in the control group were 59.7%, 35.6%, 4.8%. With regard to the G-7A promoter polymorphism (rs1800801) in patients with IS, the respective distributions were 35.9%, 48.8% and 15.3%, compared to 43.5%, 50% and 6.5% in the control group. Finally, the respective distributions according to the Thr83Ala exon 4 polymorphism (rs1800803) in patients with IS were 39.4%, 48.8% and 11.8%, compared to 34.7%, 53.2% and 12.1% in the control group. In a logistic regression analysis, it was estimated that A/A genotype (G-7A polymorphism) was significantly associated with IS (OR=2.943; 95% CI: 1.218–7.109) in the Ukrainian population. A-allele carriers of female sex had a risk of IS more than 7 times higher compared with carriers of G/G genotype. **Keywords:** Matrix Gla protein, single nucleotide polymorphism, ischemic stroke, arterial calcification, Ukrainian population.

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