

MOLECULAR-GENETIC CHARACTERISTIC OF *M. TUBERCULOSIS* STRAINS OF PATIENTS WITH PULMONARY TUBERCULOSIS FROM ASTANA

Maya Aleksandrovna DYMOVA¹, Almagul Rakhimberlievna KUSHUGULOVA²,
Saule Eslamovna RAKHIMOVA², Erlan Mirkhaidarovich RAMANKULOV²,
Rosa Zhaparovna ZHUSUPOVA³, Evgeniy Aleksandrovich KHRAPOV¹,
Maksim Leonidovich FILIPENKO¹

¹*Institute of Chemical Biology and Fundamental Medicine SB RAS
630090, Novosibirsk, Lavrentjev av., 8*

²*National Center of Biotechnology
010000, Astana, Ch. Valikhanov, str. 13/1*

³*TB dispensary
010000, Astana, Makhtumkuli str., 14*

Using VNTR-typing for the first time we carried out molecular-genetic investigation of *M. tuberculosis* isolates, obtained from 46 patients with pulmonary tuberculosis living in Astana (Kazakhstan). 23 different genetic profiles have been identified. The isolates of Beijing family were dominating and consisted of 70 % (32 isolates). The cluster of Beijing family possessed considerable genetic homogeneity that is an evidence of increased transmissibility and virulence of this family in the investigated territory. Statistically significant differences between the number of isolates of the first time and the second time detected tuberculosis were not revealed ($\chi^2 = 0.360$, $P = 0.5487$). The association between Beijing family and multidrug resistance was not revealed ($R = 0.00$, $p = 1.0000$). In addition, we identified a significant percentage of isolates (26 %), referring to yet unidentified families of *M. tuberculosis* and having individual non clustered genotypes.

Key words: *Mycobacterium tuberculosis*, drug resistance, mutations, Beijing family.

Dymova M.A. — junior researcher, e-mail: maya.a.rot@gmail.com

Kushugulova A.R. — candidate of medical sciences, head of laboratory of microorganism collection, e-mail: lgene@biocenter.kz

Rakhimova S.E. — researcher of the shared national science laboratory, e-mail: rahimova_saule@mail.ru

Ramankulov E.M. — PhD in biochemistry and molecular biology, general director, e-mail: ramankulov@biocenter.kz

Zhusupova R.Zh. — chief physician of Astana TB dispensary, e-mail: tubdisp_astana@mail.ru

Khrapov E.A. — junior researcher, e-mail: Khrap_off@ngs.ru

Filipenko M.L. — candidate of biological sciences, head of the group for pharmacogenomics, e-mail: max@niboch.nsc.ru