

Сведения о научных руководителях

диссертации Васильковой Дарьи Павловны

«Комплекс Integrator – участник транскрипции теломеразной РНК человека»

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Список основных научных публикаций по специальностям 02.00.10 – биоорганическая химия и 03.01.03 – молекулярная биология (химические науки) (за последние 5 лет):

1. Rubtsova, M., Vasilkova, D., Moshareva, M., Malyavko, A., Meerson, M., Zatsepin, T., Naraykina, Y., Beletsky, A., Ravin, N., and **Dontsova, O.** Integrator is a key component of human telomerase rna biogenesis. // *Scientific reports* 9, 1 (2019), 1701.
2. Chugunova, A., Loseva, E., Mazin, P., Mitina, A., Navalayeu, T., Bilan, D., Vishnyakova, P., Marey, M., Golovina, A., Serebryakova, M., Pletnev, P., Rubtsova, M., Mair, W., Vanyushkina, A., Khaitovich, P., Belousov, V., Vysokikh, M., Sergiev, P., and **Dontsova, O.** Linc00116 codes for a mitochondrial peptide linking respiration and lipid metabolism. // *Proceedings of the National Academy of Sciences of the United States of America* 116, 11 (2019), 4940–4945.
3. Savelyev, N., Baykuzina, P., Dokudovskaya, S., Lavrik, O., Rubtsova, M., and **Dontsova, O.** Comprehensive analysis of telomerase inhibition by gallotannin. // *Oncotarget* 9, 27 (2018), 18712–18719.
4. Mariasina, S. S., Efimov, S. V., Petrova, O. A., Rodina, E. V., Malyavko, A. N., Zvereva, M. I., Klochkov, V. V., **Dontsova, O. A.**, and Polshakov, V. I. Chemical shift assignments and the secondary structure of the est3 telomerase subunit in the yeast *hansenula polymorpha*. // *Biomolecular NMR Assignments* 12, 1 (2018), 57–62.

5. Mariasina S.S., Petrova O.A., Osterman I.A., Sergeeva O.A., Efimov S.V., Klochkov V.V., Sergiev P.V., **Dontsova O.A.**, Huang T., Chang C., Polshakov V.I. NMR assignments of the WBSCR27 protein related to Williams-Beuren syndrome. // *Biomolecular NMR Assignments*. 2018. Tom 12. №2. C.303-308.
6. Rubtsova M.¹, Naraykina Y.¹, Vasilkova D., Meerson M., Zvereva M., Prassolov V., Lazarev V., Manuvera V., Kovalchuk S., Anikanov N., Butenko I., Pobeguts O., Govorun V., **Dontsova O.** Protein encoded in human telomerase RNA is involved in cell protective pathways. // *Nucleic Acids Research*. 2018. tom 46. № 17. C. 8966–8977.
7. Petrova O.A.[†], Mantsyzov A.B.[†], Rodina E.V.[†], Efimov S.V., Hackenberg C., Hakanpää J., Klochkov V.V., Lebedev A.A., Chugunova A.A., Malyavko A.N., Zatsepин T.S., Mishin A.V., Zvereva M.I., Lamzin V.S., **Dontsova O.A.** and Polshakov V.I. Structure and function of the N-terminal domain of the yeast telomerase reverse transcriptase. // *Nucleic Acids Research*. 2018. Tom 46. № 3. C. 1525–1540.
8. Evfratov S.A., Osterman I.A., Komarova E.S., Pogorelskaya A.M., Rubtsova M.P., Zatsepин T.S., Semashko T.A., Kostryukova E.S., Mironov A.A., Burnaev E., Krymova E., Gelfand M.S., Govorun V.M., Bogdanov A.A., Sergiev P.V., **Dontsova O.A.** Application of sorting and nextgeneration sequencing to study 5'-UTR influence on translation efficiency in *Escherichia coli*. // *Nucleic Acids Research*. 2018. Tom 45. №6. C. 3487-3502.
9. Kalinina Marina A., Skvortsov Dmitry A., Rubtsova Maria P., Komarova Ekaterina S., **Dontsova Olga A.** Cytotoxicity Test Based on Human Cells Labeled with Fluorescent Proteins: Fluorimetry, Photography, and Scanning for High-Throughput Assay. // *Molecular Imaging and Biology*. 2018. Tom. 20. №. 3. C. 368-377.
10. Osterman Ilya A., Khabibullina Nelli F., Komarova Ekaterina S., Kasatsky Pavel, Kartsev Victor G., Bogdanov Alexey A., **Dontsova Olga A.**, Konevega Andrey L., Sergiev Petr V., Polikanov Yury S. Madumycin II inhibits peptide bond formation by forcing the peptidyl transferase center into an inactive state. // *Nucleic Acids Research*. 2018. Tom 45. №12. C. 7507–7514.
11. 7. Beletsky Alexey V., Malyavko Alexander N., Sukhanova Maria V., Mardanova Eugenia S., Zvereva Maria I., Petrova O.A., Parfenova Yulia Yu, Rubtsova Maria P., Mardanov Andrey V.. Lavrik Olga I., **Dontsova Olga A.**, Ravin Nikolai V. The genome-wide transcription response to telomerase deficiency in the thermotolerant yeast Hansenula polymorpha DL-1. // *BMC Genomics*. 2017. Tom 18. № 1.
12. 8. Prokhorova Irina V., Akulich Kseniya A., Makeeva Desislava S., Osterman Ilya A., Skvortsov Dmitry A., Sergiev Petr V., **Dontsova Olga A.**, Yusupova Gulnara.

- Yusupov Marat M., Dmitriev Sergey E. Amicoumacin A induces cancer cell death by targeting the eukaryotic ribosome. // *Scientific reports*. 2016. Tom 6. C. 27720.

13. Sergiev P.V., Golovina A.Y., Osterman I.A., Nesterchuk M.V., Sergeeva O.V., Chugunova A.A., Evfratov S.A., Andreianova E.S., Pletnev P.I., Laptev I.G., Petriukov K.S., Navalayeu T.I., Koteliansky V.E., Bogdanov A.A., **Dontsova O.A.** N6-Methylated Adenosine in RNA:From Bacteria to Humans. // *Journal of Molecular Biology*. 2016. Tom 428. № 10. C. 2134-2145.

14. Osterman Ilya A., Komarova E.S., Shiryaev Dmitry I., Korniltsev Ilya A., Khven Irina M., Lukyanov Dmitry, Tashlitsky Vadim N., Serebryakova Marina V., Efremenkova Olga V., Ivanenkov Yan, A. Bogdanov AA, Sergiev PV, **Dontsova OA**. Sorting out antibiotics' mechanisms of action: a double fluorescent protein reporter for high throughput screening of ribosome and DNA biosynthesis inhibitors. // *Antimicrobial Agents and Chemotherapy*. 2016. Tom 60. №12. C. 7481-7489.

15. Azhibek Dulat, Skvortsov Dmitry, Andreeva Anna, Zatsepin Timofei, Arutyunyan Alexandr, Zvereva Maria, **Dontsova Olga**. TERRA mimicking ssRNAs prevail over the DNA substrate for telomerase in vitro due to interactions with the alternative binding site. // *Journal of Molecular Recognition*. 2016. Tom 29. № 6. C. 242-247.

16. Osterman Ilya A., Evfratov Sergey A., Dzama Margarita M., Pletnev Philipp I., Kovalchuk Sergey I., Butenko Ivan O., Pobeguts Olga V., Golovina Anna Ya., Govorun Vadim M., Bogdanov Alexey A., Sergiev Petr V., **Dontsova Olga A.** A bacterial homologue YciH of eukaryotic translation initiation factor eIF1 regulates stress-related gene expression and is unlikely to be involved in translation initiation fidelity. // *RNA Biology*. 2015. Tom 12. № 9. C. 966-971.

17. Ivanenkov Yan A., Vasilevski Sergei V., Beloglazkina Elena K., Kukushkin Maksim E., Machulkin Alexey E., Veselov Mark S., Chufarova Nina V., Vanzeool Anton, Zyk Nikolay V., Skvortsov Dmitry A., Khutornenko Anastasia A., Rusanov Alexander L., Tonevitsky Alexander G., **Dontsova Olga A.**, Majouga Alexander G. Design, synthesis and biological evaluation of novel potent MDM2/p53 small-molecule inhibitors. // *Bioorganic and Medicinal Chemistry Letters*. 2015. Tom 25. № 2. C. 404-409.

18. Polikanov YS, Osterman IA, Szal T., Tashlitsky VN, Serebryakova MV, Kusochek P., Bulkley D., Malanicheva IA, Efimenko TA, Efremenkova OV, Konevega AL, Shaw KJ, Bogdanov AA, Rodnina MV, **Dontsova OA**, Mankin AS, Steitz TA, Sergiev PV. Amicoumacin A Inhibits Translation by Stabilizing mRNA Interaction with the Ribosome. // *Molecular Cell*. 2014. Tom 56. №4. C.531-540.

19. Azhibek D., Zvereva M., Zatsepin T., Rubtsova M., **Dontsova O.** Chimeric bifunctional oligonucleotides as a novel tool to invade telomerase assembly. // *Nucleic Acids Research*. 2014. Том 42. № 15. С. 9531-9542.
20. Golovina A.Y., Dzama M.M., Petriukov K.S., Zatsepin T.S., Sergiev P.V., Bogdanov A.A., **Dontsova O.A.** Method for site-specific detection of m6A nucleoside presence in RNA based on high-resolution melting (HRM) analysis. // *Nucleic Acids Research*. 2014. Том 42. №4.

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4. Terekhov Stanislav S., Smirnov Ivan V., Malakhova Maja V., Samoilov Andrei E., Manolov Alexander I., Nazarov Anton S., Danilov Dmitry V., Dubiley Svetlana A., Osterman Ilya A., **Rubtsova Maria P.**, Kostryukova Elena S., Ziganshin Rustam H., Kornienko Maria A., Vanyushkina Anna A., Bukato Olga N., Ilina Elena N., Vlasov

- Valentin V., Severinov Konstantin V., Gabibov Alexander G., Altman Sidney. Ultrahigh-throughput functional profiling of microbiota communities. // *Proceedings of the National Academy of Sciences of the United States of America*. 2018.
5. Evfratov SA, Osterman IA, Komarova ES, Pogorelskaya AM, **Rubtsova MP**, Zatsepin TS, Semashko TA, Kostryukova ES, Mironov AA, Burnaev E., Krymova E., Gelfand MS, Govorun VM, Bogdanov AA, Sergiev PV, Dontsova OA. Application of sorting and nextgeneration sequencing to study 5'-UTR influence on translation efficiency in *Escherichia coli*. // *Nucleic Acids Research*. 2017. Том 45. № 6. С. 3487-3502.
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 7. Olga Shubernetskaya, Dmitry Skvortsov, Evfratov Sergey A., **Maria Rubtsova**, Elena Belova, Olga Strelkova, Varvara Cherepaninets, Oxana Zhironkina, Alexey Olovnikov, Maria Zvereva, Olga Dontsova, Kireev Igor I. Interstitial telomeric repeats-associated DNA breaks. // *Nucleus*. 2017. Том 8. № 6. С. 641-653.
 8. Terekhov SS, Smirnov IV, Stepanova AV, Bobik TV, Mokrushina YA, Ponomarenko NA, Belogurov AA Jr, **Rubtsova MP**, Kartseva OV, Gomzikova MO, Moskovtsev AA, Bukatin AS, Dubina MV, Kostryukova ES, Babenko VV, Vakhitova MT, Manolov AI, Malakhova MV, Kornienko MA, Tyakht AV, Vanyushkina AA, Ilina EN, Masson P., Gabibov AG, Altman S. Microfluidic droplet platform for ultrahigh-throughput single-cell screening of biodiversity. //

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