

## Complete List of Publications of Bohdan Ostash (Present-Past)

### Peer-reviewed articles

(<http://www.ncbi.nlm.nih.gov/pubmed/?term=ostash+b>)

1. Deneka M, Ostash I, Yalamanchili S, Bennett CS, **Ostash B**. Insights into the Biological Properties of Ligands and Identity of Operator Site for LanK Protein Involved in Landomycin Production. *Curr Microbiol*. 2023 Nov 10;81(1):5. doi: 10.1007/s00284-023-03528-1.
2. Dolya B, Hryhorieva O, Sorochnytska K, Lopatniuk M, Ostash I, Tseduliak V-M, Sterndorff EB, Jørgensen TS, Gren T, Dacyuk Y, Weber T, Luzhetskyy A, Fedorenko V, **Ostash B**. Properties of multidrug-resistant mutants derived from heterologous expression chassis strain *Streptomyces albidoflavus* J1074. *Microorganisms*. 2023; 11(5):1176. <https://doi.org/10.3390/microorganisms11051176>
3. Koshla O, Vogt LM, Rydkin O, Sehin Y, Ostash I, Helm M, **Ostash B**. Landscape of post-transcriptional tRNA modifications in *Streptomyces albidoflavus* J1074 as portrayed by mass spectrometry and genomic data mining. *J Bacteriol*. 2023 Jan 26;205(1):e0029422. doi: 10.1128/jb.00294-22.
4. Tseduliak VM, Dolia B, Ostash I, Lopatniuk M, Busche T, Ochi K, Kalinowski J, Luzhetskyy A, Fedorenko V, **Ostash B**. Mutations within gene *XNR\_2147* for TetR-like protein enhance lincomycin resistance and endogenous specialized metabolism of *Streptomyces albus* J1074. *J Appl Genet*. 2023 Feb;64(1):185-195. doi: 10.1007/s13353-022-00738-4.
5. Yushchuk O, Zhukrovska K, **Ostash B**, Fedorenko V, Marinelli F. Heterologous expression reveals ancient properties of Tei3 – a VanS ortholog from the teicoplanin producer *Actinoplanes teichomyceticus*. *Int J Mol Sci*. 2022 Dec 11;23(24):15713. doi: 10.3390/ijms232415713.
6. **Ostash B**, Makitrynsky R, Yushchuk O, Fedorenko V. Structural diversity, bioactivity, and biosynthesis of phosphoglycolipid family antibiotics: recent advances. *BBA Adv*. 2022 Nov 17;2:100065. doi: 10.1016/j.bbadv.2022.100065.
7. Tsugita A, Uehara S, Matsui T, Yokoyama T, Ostash I, Deneka M, Yalamanchili S, Bennett CS, Tanaka Y, **Ostash B**. The carbohydrate tail of landomycin A is responsible for its interaction with the repressor protein LanK. *FEBS J*. 2022 Oct;289(19):6038-6057. doi: 10.1111/febs.16460.
8. Shemediuk A, Dolia B, Ochi K, Fedorenko V, **Ostash B**. Properties of spontaneous *rpsL* mutant of *Streptomyces albus* KO-1297. *Cytol Genet*. 2022;56(1):31-36. doi: 10.3103/S009545272201011X.
9. Melnyk S, Stepanyshyn A, Yushchuk O, Mandler M, Ostash I, Koshla O, Fedorenko V, Kahne D, **Ostash B**. Genetic approaches to improve clorobiocin production in *Streptomyces roseochromogenes* NRRL 3504. *Appl Microbiol Biotechnol*. 2022 Feb;106(4):1543-1556. doi: 10.1007/s00253-022-11814-4.
10. Hrab P, Rückert C, Busche T, Ostash I, Kalinowski J, Fedorenko V, Yushchuk O, **Ostash B**. Complete genome sequence of *Streptomyces cyanogenus* S136, producer of anticancer angucycline landomycin A. *3 Biotech*. 2021;11(6):282. doi: 10.1007/s13205-021-02834-4.
11. Koshla O, Lopatniuk M, Borys O, Misaki Y, Kravets V, Ostash I, Shemediuk A, Ochi K, Luzhetskyy A, Fedorenko V, **Ostash B**. Genetically engineered *rpsL* merodiploidy impacts secondary metabolism and antibiotic resistance in *Streptomyces*. *World J Microbiol Biotechnol*. 2021 Mar 17;37(4):62. doi: 10.1007/s11274-021-03030-5.
12. Yushchuk O, Ostash I, Mösker E, Vlasiuk I, Deneka M, Rückert C, Busche T, Fedorenko V, Kalinowski J, Süßmuth RD, **Ostash B**. Eliciting the silent lucensomycin biosynthetic pathway in *Streptomyces cyanogenus* S136 via manipulation of the global regulatory gene *adpA*. *Sci Rep*. 2021 Feb 10;11(1):3507. doi: 10.1038/s41598-021-82934-6.

13. Silov S, Zaburanyi N, Anisimova M, **Ostash B**. The Use of the rare TTA codon in *Streptomyces* genes: significance of the codon context? Indian J Microbiol. 2021 Mar;61(1):24-30. doi: 10.1007/s12088-020-00902-6.
14. **Ostash B**. Pleiotropic regulatory genes as a tool for *Streptomyces* strains bioprospecting and improvement. Curr. Biotech. – 2021. – Vol. 10. P. 18–31. doi: 10.2174/2211550110666210217105112
15. Koshla O, Kravets V, Dacyuk Y, Ostash I, Süßmuth R, **Ostash B**. Genetic analysis of *Streptomyces albus* J1074 *mia* mutants suggests complex relationships between post-transcriptional tRNA<sub>XXA</sub> modifications and physiological traits. Folia Microbiol. 2020 Dec;65(6):1009-1015. doi: 10.1007/s12223-020-00811-7.
16. Yushchuk O, **Ostash B**, Truman AW, Marinelli F, Fedorenko V. Teicoplanin biosynthesis: unraveling the interplay of structural, regulatory, and resistance genes. Appl Microbiol Biotechnol. 2020 Apr;104(8):3279-3291. doi: 10.1007/s00253-020-10436-y.
17. Yushchuk O, Homoniuk V, **Ostash B**, Marinelli F, Fedorenko V. Genetic insights into the mechanism of teicoplanin self-resistance in *Actinoplanes teichomyceticus*. J Antibiot (Tokyo). 2020 Apr;73(4):255-259. doi: 10.1038/s41429-019-0274-9.
18. Yushchuk O, Homoniuk V, Datsiuk Y, **Ostash B**, Marinelli F, Fedorenko V. Development of a gene expression system for the uncommon actinomycete *Actinoplanes rectilineatus* NRRL B-16090. J Appl Genet. 2020 Feb;61(1):141-149. doi: 10.1007/s13353-019-00534-7.
19. Lopatniuk M, Myronovskyi M, Nottebrock A, Busche T, Kalinowski J, **Ostash B**, Fedorenko V, Luzhetskyy A. Effect of "ribosome engineering" on the transcription level and production of *S. albus* indigenous secondary metabolites. Appl Microbiol Biotechnol. 2019 Sep;103(17):7097-7110. doi: 10.1007/s00253-019-10005-y.
20. Koshla O, Yushchuk O, Ostash I, Dacyuk Y, Myronovskyi M, Jäger G, Süßmuth RD, Luzhetskyy A, Byström A, Kirsebom LA, **Ostash B**. Gene *miaA* for post-transcriptional modification of tRNA(XXA) is important for morphological and metabolic differentiation in *Streptomyces*. Mol Microbiol. 2019 Jul;112(1):249-265. doi: 10.1111/mmi.14266.
21. Koshla O, Rokytskyy I, Ostash I, Busche T, Kalinowski J, Mosker E, Süßmuth RD, Fedorenko V, **Ostash B**. Secondary metabolome and transcriptome of *Streptomyces albus* J1074 in liquid medium SG2. Cyt Genet. 2019; 53(1):1-7. doi: 10.3103/S0095452719010080.
22. Yushchuk O, Horbal L, **Ostash B**, Marinelli F, Wohlleben W, Stegmann E, Fedorenko V. Regulation of teicoplanin biosynthesis: refining the roles of *tei* cluster-situated regulatory genes. Appl Microbiol Biotechnol. 2019 May;103(10):4089-4102. doi: 10.1007/s00253-019-09789-w.
23. Kuzhyk Y, Lopatniuk M, Luzhetskyy A, Fedorenko V, **Ostash B**. Genome engineering approaches to improve nosokomycin A production by *Streptomyces ghanaensis* B38.3. Indian J Microbiol. 2019 Mar;59(1):109-111. doi: 10.1007/s12088-018-0761-x.
24. Yushchuk O, Kharel M, Ostash I, **Ostash B**. Landomycin biosynthesis and its regulation in *Streptomyces*. Appl Microbiol Biotechnol. 2019 Jan 11. doi: 10.1007/s00253-018-09601-1.
25. Sehin Y, Koshla O, Dacyuk Y, Zhao R, Ross R, Myronovskyi M, Limbach PA, Luzhetskyy A, Walker S, Fedorenko V, **Ostash B**. Gene *ssfg\_01967 (miaB)* for tRNA modification influences morphogenesis and moenomycin biosynthesis in *Streptomyces ghanaensis* ATCC14672. Microbiology. 2019 Feb;165(2):233-245. doi: 10.1099/mic.0.000747.
26. Yushchuk O, Ostash I, Vlasiuk I, Gren T, Luzhetskyy A, Kalinowski J, Fedorenko V, **Ostash B**. Heterologous AdpA transcription factors enhance landomycin production in *Streptomyces cyanogenus* S136 under a broad range of growth conditions. Appl Microbiol Biotechnol. 2018 Oct;102(19):8419-8428. doi: 10.1007/s00253-018-9249-1.

27. Kuzhyk Y, Mutenko H, Fedorenko V, **Ostash B**. Analysis of *Streptomyces ghanaensis* ATCC14672 gene SSFG\_07725 for putative  $\gamma$ -butyrolactone synthase. Folia Microbiol. 2018 Nov;63(6):701-706. doi: 10.1007/s12223-018-0614-3.
28. Rabyk M, Yushchuk O, Rokytskyy I, Anisimova M, **Ostash B**. Genomic insights into evolution of AdpA family master regulators of morphological differentiation and secondary metabolism in *Streptomyces*. J Mol Evol. 2018 Apr;86(3-4):204-215. doi: 10.1007/s00239-018-9834-z.
29. Ostash I, Kolvenbach B, Corvini PF, Fedorenko V, **Ostash B**, Cichočka D. Gene cloning system for sulfonamide-mineralizing *Microbacterium* sp. strain BR1. J Appl Genet. 2018 Feb;59(1):119-121. doi: 10.1007/s13353-017-0427-0.
30. Gren T, **Ostash B**, Babiy V, Rokytskyy I, Fedorenko V. Analysis of *Streptomyces coelicolor* M145 genes *SCO4164* and *SCO5854* encoding putative rhodanases. Folia Microbiol. 2018 Mar;63(2):197-201. doi: 10.1007/s12223-017-0551-6.
31. Tsypik O, Makitrynsky R, Bera A, Song L, Wohlleben W, Fedorenko V, **Ostash B**. Role of GntR family regulatory gene *SCO1678* in gluconate metabolism in *Streptomyces coelicolor* M145. Biomed Res Int. 2017;2017:9529501. doi: 10.1155/2017/9529501.
32. Koshla O, Lopatniuk M, Rokytskyy I, Yushchuk O, Dacyuk Y, Fedorenko V, Luzhetskyy A, **Ostash B**. Properties of *Streptomyces albus* J1074 mutant deficient in tRNA(Leu)(UAA) gene *bldA*. Arch Microbiol. 2017 Oct;199(8):1175-1183. doi: 10.1007/s00203-017-1389-7.
33. Rokytskyy I, Koshla O, Fedorenko V, **Ostash B**. Decoding options and accuracy of translation of developmentally regulated UUA codon in *Streptomyces*: bioinformatic analysis. Springerplus. 2016 Jul 4;5(1):982. doi: 10.1186/s40064-016-2683-6.
34. Horbal L, **Ostash B**, Luzhetskyy A, Walker S, Kalinowski J, Fedorenko V. A gene cluster for the biosynthesis of moenomycin family antibiotics in the genome of teicoplanin producer *Actinoplanes teichomyceticus*. Appl Microbiol Biotechnol. 2016 Sep;100(17):7629-38. doi: 10.1007/s00253-016-7685-3.
35. Yushchuk O, **Ostash B**, Pham TH, Luzhetskyy A, Fedorenko V, Truman AW, Horbal L. Characterization of the post-assembly line tailoring processes in teicoplanin biosynthesis. ACS Chem Biol. 2016 Aug 19;11(8):2254-64. doi: 10.1021/acscchembio.6b00018.
36. Shashkov AS, Streshinskaya GM, Tul'skaya EM, Senchenkova SN, Baryshnikova LM, Dmitrenok AS, **Ostash BO**, Fedorenko VA. Cell wall glycopolymers of *Streptomyces albus*, *Streptomyces albidoflavus* and *Streptomyces pathocidini*. Antonie Van Leeuwenhoek. 2016 Jul;109(7):923-36. doi: 10.1007/s10482-016-0691-8.
37. Tsypik O, Yushchuk O, Zaburannyi N, Flärdh K, Walker S, Fedorenko V, **Ostash B**. Transcriptional regulators of GntR family in *Streptomyces coelicolor* A3(2): analysis *in silico* and *in vivo* of YtrA subfamily. Folia Microbiol. 2016 May;61(3):209-20. doi: 10.1007/s12223-015-0426-7.
38. Medema MH, Kottmann R, Yilmaz P, [113 co-authors], **Ostash B**, Payne SM, et al. Minimum Information about a Biosynthetic Gene cluster. Nat Chem Biol. 2015 Sep;11(9):625-31. doi: 10.1038/nchembio.1890.
39. **Ostash B**, Yushchuk O, Tistechok S, Mutenko H, Horbal L, Muryn A, Dacyuk Y, Kalinowski J, Luzhetskyy A, Fedorenko V. The *adpA*-like regulatory gene from *Actinoplanes teichomyceticus*: *in silico* analysis and heterologous expression. World J Microbiol Biotechnol. 2015 Aug;31(8):1297-301. doi: 10.1007/s11274-015-1882-6.

40. Lopatniuk M, **Ostash B**, Makitrynsky R, Walker S, Luzhetskyy A, Fedorenko V. Testing the utility of site-specific recombinases for manipulations of genome of moenomycin producer *Streptomyces ghanaensis* ATCC14672. J Appl Genet. 2015 Nov;56(4):547-550. doi: 10.1007/s13353-015-0283-8.
41. Mutenko H, Makitrynsky R, Tsypik O, Walker S, **Ostash B**, Fedorenko V. Genes for biosynthesis of butenolide-like signalling molecules in *Streptomyces ghanaensis*, their role in moenomycin production. Russ J Genet. 2014 Jun;50(6):563-568. <https://doi.org/10.1134/S1022795414060076>
42. Lopatniuk M, **Ostash B**, Luzhetskyy A, Walker S, Fedorenko V. Generation and study of the strains of streptomycetes - heterologous hosts for production of moenomycin. Russ J Genet. 2014 Apr;50(4):360-365. <https://doi.org/10.1134/S1022795414040085>
43. Horbal L, Kobylyansky A, Truman AW, Zaburranyi N, **Ostash B**, Luzhetskyy A, Marinelli F, Fedorenko V. The pathway-specific regulatory genes, *tei15\** and *tei16\**, are the master switches of teicoplanin production in *Actinoplanes teichomyceticus*. Appl Microbiol Biotechnol. 2014 Nov;98(22):9295-309. doi: 10.1007/s00253-014-5969-z.
44. Rabyk MV, **Ostash BO**, Fedorenko VO. Gene networks that regulate secondary metabolism in actinomycetes: pleiotropic regulators. Cyt Genet. 2014 Jan-Feb;48(1):55–67. <https://doi.org/10.3103/S0095452714010083>
45. **Ostash B**, Shashkov A, Streshinskaya G, Tul'skaya E, Baryshnikova L, Dmitrenok A, Dacyuk Y, Fedorenko V. Identification of *Streptomyces coelicolor* M145 genomic region involved in biosynthesis of teichulosonic acid-cell wall glycopolymer. Folia Microbiol. 2014 Jul;59(4):355-60. doi: 10.1007/s12223-014-0306-6.
46. Zaburranyi N, Rabyk M, **Ostash B**, Fedorenko V, Luzhetskyy A. Insights into naturally minimised *Streptomyces albus* J1074 genome. BMC Genomics. 2014 Feb 5;15:97. doi: 10.1186/1471-2164-15-97.
47. **Ostash B**, Campbell J, Luzhetskyy A, Walker S. MoeH5: a natural glycorandomizer from the moenomycin biosynthetic pathway. Mol Microbiol. 2013 Dec;90(6):1324-38. doi: 10.1111/mmi.12437.
48. Horbal L, Kobylyansky A, Yushchuk O, Zaburranyi N, Luzhetskyy A, **Ostash B**, Marinelli F, Fedorenko V. Evaluation of heterologous promoters for genetic analysis of *Actinoplanes teichomyceticus* – producer of teicoplanin, drug of last defense. J Biotechnol. 2013 Dec;168(4):367-72. doi: 10.1016/j.jbiotec.2013.10.018.
49. Makitrynsky R, **Ostash B**, Tsypik O, Rebets Y, Doud E, Meredith T, Luzhetskyy A, Bechthold A, Walker S, Fedorenko V. Pleiotropic regulatory genes *bltA*, *adpA* and *absB* are implicated in production of phosphoglycolipid antibiotic moenomycin. Open Biol. 2013 Oct 23;3(10):130121. doi: 10.1098/rsob.130121.
50. Gren T, **Ostash B**, Hrubskyy Y, Tistechok S, Fedorenko V. Influence of transition metals on *Streptomyces coelicolor* and *S. sioyaensis* and generation of chromate-reducing mutants. Folia Microbiol. 2014 Mar;59(2):147-53. doi: 10.1007/s12223-013-0277-z.
51. **Ostash B**, Gren T, Hrubskyy Y, Tistechok S, Beshley S, Baranov V, Fedorenko V. Cultivable actinomycetes from rhizosphere of birch (*Betula pendula*) growing on a coal mine dump in Silets, Ukraine. J Basic Microbiol. 2014 Aug;54(8):851-7. doi: 10.1002/jobm.201200551.
52. Tsypik O, **Ostash B**, Rebets' Yu, Fedorenko V. Characterization of *Streptomyces globisporus* 1912 *lnd*-cluster region containing *lndY*, *lndYR*, *lndW2* and *lndW* genes. Cyt Genet. 2013 Jan-Feb;47(1):8-12. <https://doi.org/10.3103/S0095452713010106>

53. **Ostash B**, I. Ostash, L. Horbal, V. Fedorenko Exploring and exploiting gene networks that regulate natural products biosynthesis in actinobacteria. Nat. Prod. J. – 2013. – Vol. 3. – P. 189–198. DOI: [10.2174/22103155113039990013](https://doi.org/10.2174/22103155113039990013)
54. Shashkov A, **Ostash B**, Fedorenko V, Streshinskaya G, Tul'skaya E, Senchenkova S, Baryshnikova L, Evtushenko L. Novel teichulosonic acid from cell wall of *Streptomyces coelicolor* M145. Carbohydr Res. 2012 Oct 1;359:70-5. doi: 10.1016/j.carres.2012.05.018.
55. Horbal L, Zaburanny N, **Ostash B**, Shulga S, Fedorenko V. Manipulating the regulatory genes for teicoplanin production in *Actinoplanes teichomyceticus*. World J Microbiol Biotechnol. 2012 May;28(5):2095-100. doi: 10.1007/s11274-012-1013-6.
56. **Ostash B**, Doud E, Walker S. ABC transporter genes from *Streptomyces ghanaensis* moenomycin biosynthetic gene cluster: roles in antibiotic production and export. Arch Microbiol. 2012 Nov;194(11): 915-22. doi: 10.1007/s00203-012-0827-9.
57. Rabyk M, **Ostash B**, Rebets Y, Walker S, Fedorenko V. *Streptomyces ghanaensis* pleiotropic regulatory gene *wblA(gh)* influences morphogenesis and moenomycin production. Biotechnol Lett. 2011 Dec;33(12):2481-6. doi: 10.1007/s10529-011-0728-z.
58. **Ostash B**, Rebets Y, Myronovskyy M, Tsypik O, Ostash I, Kulachkovskyy O, Datsyuk Y, Nakamura T, Walker S, Fedorenko V. Identification and characterization of the *Streptomyces globisporus* 1912 regulatory gene *IndYR* that affects sporulation and antibiotic production. Microbiology. 2011 Apr;157(Pt 4):1240-9. doi: 10.1099/mic.0.045088-0.
59. Zhang W, **Ostash B**, Walsh CT. Identification of the biosynthetic gene cluster for the pacidamycin group of peptidyl nucleoside antibiotics. Proc Natl Acad Sci USA. 2010 Sep 28;107(39):16828-33. doi: 10.1073/pnas.1011557107.
60. **Ostash B**, Walker S. Moenomycin family antibiotics: chemical synthesis, biosynthesis, and biological activity. Nat Prod Rep. 2010 Nov;27(11):1594-617. doi: 10.1039/c001461n.
61. **Ostash B**. Site-specific recombinases in genetic engineering: modern *in vivo* technologies. Cyt Genet. 2010 Jul-Aug;44(4):244-251. <https://doi.org/10.3103/S0095452710040109>
62. **Ostash B**, Ostash I, Zhu L, Kharel MK, Luzhetskyy A, Bechthold A, Walker S, Rohr J, Fedorenko V. Properties of *lanK*-based regulatory circuit involved in landomycin biosynthesis in *Streptomyces cyanogenus* S136. Russ J Genet. 2010 May;46(5):530–535. <https://doi.org/10.1134/S1022795410050030>
63. **Ostash B**, Doud E, Fedorenko V. The molecular biology of moenomycins: towards novel antibiotics based on inhibition of bacterial peptidoglycan glycosyltransferases. Biol Chem. 2010 May;391(5):499-504. doi: 10.1515/BC.2010.053.
64. Makitrynskyy R, Rebets Y, **Ostash B**, Zaburannyi N, Rabyk M, Walker S, Fedorenko V. Genetic factors that influence moenomycin production in streptomycetes. J Ind Microbiol Biotechnol. 2010 Jun;37(6): 559-66. doi: 10.1007/s10295-010-0701-1.
65. Kobylyanskyy A, **Ostash B**, Fedorenko V. Heterologous cross-expression of oxygenase and glycosyltransferase genes in streptomycetes, producing angucyclic antibiotics. Cyt Genet. 2009 May-Jun;43(3):194–200. <https://doi.org/10.3103/S0095452709030098>
66. **Ostash B**, Korynevska A, Stoika R, Fedorenko V. Chemistry and biology of landomycins, an expanding family of polyketide natural products. Mini Rev Med Chem. 2009 Aug;9(9):1040-51.

67. **Ostash B**, Doud EH, Lin C, Ostash I, Perlstein DL, Fuse S, Wolpert M, Kahne D, Walker S. Complete characterization of the seventeen step moenomycin biosynthetic pathway. Biochemistry. 2009 Sep 22;48(37):8830-41. doi: 10.1021/bi901018q.
68. Mironovskyy M, **Ostash B**, Fedorenko V. Diversity of genes encoding nonribosomal peptide synthetases in the *Streptomyces sioyaensis* genome. Russ J Genet. 2010 Jul;46(7):794-800. <https://doi.org/10.1134/S1022795410070033>
69. Horbal L, Rebets Y, Rabyk M, Luzhetskyy A, **Ostash B**, Welle E, Nakamura T, Fedorenko V, Bechthold A. Characterization and analysis of the regulatory network involved in control of lipomycin biosynthesis in *Streptomyces aureofaciens* Tü117. Appl Microbiol Biotechnol. 2010 Jan;85(4):1069-79. doi: 10.1007/s00253-009-2108-3.
70. Zaburanny N, **Ostash B**, Fedorenko V. TTA Lynx: a web-based service for analysis of actinomycete genes containing rare TTA codon. Bioinformatics. 2009 Sep 15;25(18):2432-3. doi: 10.1093/bioinformatics/btp402.
71. **Ostash B**, Makitrinskyy R, Walker S, Fedorenko V. Identification and characterization of *Streptomyces ghanaensis* ATCC14672 integration sites for three actinophage-based plasmids. Plasmid. 2009 May;61(3):171-5. doi: 10.1016/j.plasmid.2008.12.002.
72. Yuan Y, Fuse S, **Ostash B**, Sliz P, Kahne D, Walker S. Structural analysis of the contacts anchoring moenomycin to peptidoglycan glycosyltransferases and implications for antibiotic design. ACS Chem Biol. 2008 Jul 18;3(7):429-36. doi: 10.1021/cb800078a.
73. Ostash I, **Ostash B**, Luzhetskyy A, Bechthold A, Walker S, Fedorenko V. Coordination of export and glycosylation of landomycins in *Streptomyces cyanogenus* S136. FEMS Microbiol Lett. 2008 Aug;285(2): 195-202. doi: 10.1111/j.1574-6968.2008.01225.x.
74. Ostash I, Rebets Y, **Ostash B**, Kobylanskyy A, Myronovskyy M, Nakamura T, Walker S, Fedorenko V. An ABC transporter encoding gene *IndW* confers resistance to landomycin E. Arch Microbiol. 2008 Jul;190(1):105-9. doi: 10.1007/s00203-008-0367-5.
75. Ostash I, **Ostash B**, Walker S, Fedorenko V. Proton-dependent transporter gene *IndJ* confers resistance to landomycin E in *Streptomyces globisporus*. Russ J Genet. 2007 Aug;43(8):852 – 857. <https://doi.org/10.1134/S1022795407080030>
76. Rebets Y, Dutko L, **Ostash B**, Luzhetskyy A, Kulachkovskyy O, Yamaguchi T, Nakamura T, Bechthold A, Fedorenko V. Function of *lanI* in regulation of landomycin A biosynthesis in *Streptomyces cyanogenus* S136 and cross-complementation studies with *Streptomyces* antibiotic regulatory proteins encoding genes. Arch Microbiol. 2008 Feb;189(2):111-20.
77. **Ostash B**, Saghatelian A, Walker S. A streamlined metabolic pathway for the biosynthesis of moenomycin A. Chem Biol. 2007 Mar;14(3):257-67. PubMed PMID: 17379141
78. Baig I, Kharel M, Kobylanskyy A, Zhu L, Rebets Y, **Ostash B**, Luzhetskyy A, Bechthold A, Fedorenko VO, Rohr J. On the acceptor substrate of C-glycosyltransferase UrdGT2: three prejadomycin C-Glycosides from an engineered mutant of *Streptomyces globisporus* 1912 DeltaIndE(urdGT2). Angew Chem Int Ed Engl. 2006 Nov 27;45(46):7842-6. PubMed PMID: 17061307.
79. Luzhetskyy A, Fedoryshyn M, Gromyko O, **Ostash B**, Rebets Y, Bechthold A, Fedorenko V. IncP plasmids are most effective in mediating conjugation between *Escherichia coli* and streptomycetes. Russ J Genet. 2006 May;42(5):476–481. <https://doi.org/10.1134/S1022795406050036>
80. Rebets YV, **Ostash BO**, Fukuhara M, Nakamura T, Fedorenko VO. Expression of the regulatory protein *IndI* for landomycin E production in *Streptomyces globisporus* 1912 is

- controlled by the availability of tRNA for the rare UUA codon. FEMS Microbiol Lett. 2006 Mar;256(1):30-7. PubMed PMID: 16487316.
81. Dutko L, Rebets Y, **Ostash B**, Luzhetskyy A, Bechthold A, Nakamura T, Fedorenko V. A putative proteinase gene is involved in regulation of landomycin E biosynthesis in *Streptomyces globisporus* 1912. FEMS Microbiol Lett. 2006 Feb;255(2):280-5. PubMed PMID: 16448507.
  82. **Ostash B**, Walker S. Bacterial transglycosylase inhibitors. Curr Opin Chem Biol. 2005 Oct;9(5):459-66. Review. PubMed PMID: 16118062.
  83. **Ostash B**, Ogonian S, Luzhetskyy A, Bechthold A, Fedorenko V. The use of PCR for detecting genes that encode type I polyketide synthases in genomes of actinomycetes. Russ J Genet. 2005 May;41(5):473–478. <https://doi.org/10.1007/s11177-005-0113-x>
  84. **Ostash B**, Kozarevska I, Fedorenko V. Generation of landomycin D-producing strain *Streptomyces globisporus* LD3. Folia Microbiol. 2005;50(1):19-23. PubMed PMID: 15954529.
  85. Luzhetskyy A, Zhu L, Gibson M, Fedoryshyn M, Dürr C, Hofmann C, Hoffmeister D, **Ostash B**, Mattingly C, Adams V, Fedorenko V, Rohr J, Bechthold A. Generation of novel landomycins M and O through targeted gene disruption. Chembiochem. 2005 Apr;6(4):675-8. PubMed PMID: 15812784.
  86. Zhu L, **Ostash B**, Rix U, Nur-E-Alam M, Mayers A, Luzhetskyy A, Mendez C, Salas JA, Bechthold A, Fedorenko V, Rohr J. Identification of the function of gene *IndM2* encoding a bifunctional oxygenase-reductase involved in the biosynthesis of the antitumor antibiotic landomycin E by *Streptomyces globisporus* 1912 supports the originally assigned structure for landomycinone. J Org Chem. 2005 Jan 21;70(2):631-8. <https://doi.org/10.1021/jo0483623> PubMed PMID: 15651811.
  87. Rebets Y, **Ostash B**, Luzhetskyy A, Kushnir S, Fukuhara M, Bechthold A, Nashimoto M, Nakamura T, Fedorenko V. DNA-binding activity of LndI protein and temporal expression of the gene that upregulates landomycin E production in *Streptomyces globisporus* 1912. Microbiology. 2005 Jan;151(Pt 1):281-90. PubMed PMID: 15632445.
  88. Luzhetskyy A, Liu T, Fedoryshyn M, **Ostash B**, Fedorenko V, Rohr J, Bechthold A. Function of lanGT3, a glycosyltransferase gene involved in landomycin A biosynthesis. Chembiochem. 2004 Nov 5;5(11): 1567-70. PubMed PMID: 15515090.
  89. Gromyko O, Rebets Y, **Ostash B**, Luzhetskyy A, Fukuhara M, Bechthold A, Nakamura T, Fedorenko V. Generation of *Streptomyces globisporus* SMY622 strain with increased landomycin E production and its initial characterization. J Antibiot. 2004 Jun;57(6):383-9. PubMed PMID: 15323127.
  90. **Ostash B**, Rix U, Rix LL, Liu T, Lombo F, Luzhetskyy A, Gromyko O, Wang C, Braña AF, Méndez C, Salas JA, Fedorenko V, Rohr J. Generation of new landomycins by combinatorial biosynthetic manipulation of the LndGT4 gene of the landomycin E cluster in *S. globisporus*. Chem Biol. 2004 Apr;11(4):547-55. PubMed PMID: 15123249.
  91. **Ostash B**, Rebets Y, Yuskevich V, Luzhetskyy A, Tkachenko V, Fedorenko V. Targeted disruption of *Streptomyces globisporus* *lndF* and *lndL* cyclase genes involved in landomycin E biosynthesis. Folia Microbiol. 2003;48(4):484-8. PubMed PMID: 14533479.
  92. Rebets Y, **Ostash B**, Luzhetskyy A, Hoffmeister D, Brana A, Mendez C, Salas JA, Bechthold A, Fedorenko V. Production of landomycins in *Streptomyces globisporus* 1912 and *S*

- cyanogenus* S136 is regulated by genes encoding putative transcriptional activators. FEMS Microbiol Lett. 2003 May 16;222(1):149-53. PubMed PMID: 12757959.
93. Luzhetskii A, **Ostash B**, Fedorenko V. Interspecies conjugation of *Escherichia coli*-*Streptomyces globisporus* 1912 using integrative plasmid pSET152 and its derivatives. Russ J Genet. 2001 Oct;37(10):1123-1129 <https://doi.org/10.1023/A:1012344319564>

### Book Chapters

1. Yushchuk O, **Ostash B**. Glycopeptide antibiotics: genetics, chemistry, and new screening approaches // In: “Natural products from actinomycetes”; Eds.: R.V. Rai, J.A. Bai– Springer Nature Singapore Pte Ltd, 2022. – P. 411–446. ISBN: 978-981-16-6132-7 (eBook); [https://doi.org/10.1007/978-981-16-6132-7\\_16](https://doi.org/10.1007/978-981-16-6132-7_16)
2. **Ostash B**, Anisimova M. Visualizing codon usage within and across genomes: concepts and tools //In: “Statistical modeling and machine learning principles for bioinformatics techniques, tools and applications”. Algorithms for Intelligent Systems; Eds.: K.G. Srinivasa, G.M. Giddesh, S.R. Manisekar – Springer Nature Singapore Pte Ltd, 2020. – P. 213–288. ISBN: 978-981-15-2444-8 (Print); [https://doi.org/10.1007/978-981-15-2445-5\\_13](https://doi.org/10.1007/978-981-15-2445-5_13)
3. **Ostash B**. Transcriptional factors of AdpA subfamily in *Streptomyces*: function and evolution / B. Ostash. – Warsaw: Sciendo-De Gruyter Publishing House, 2018. – 67 c. ISBN 978-3-11-062777-0. <https://doi.org/10.2478/9783110627770>
4. **Ostash B**. Chemoenzymatic and bioenzymatic synthesis of carbohydrate containing natural products / B. Ostash, X. Yan, V. Fedorenko, A. Bechthold // "Natural products via enzymatic reactions". Top. Curr. Chem., Vol. 297: Ed. J. Piel. – Springer-Verlag Berlin Heidelberg : 2010. – P. 105–148. [https://doi.org/10.1007/128\\_2010\\_78](https://doi.org/10.1007/128_2010_78)

### Publications in Ukrainian scientific journals (in English)

1. Dolya B, Busche T, Jorgensen T, Ochi K, Gren T, Weber T, Kalinowski J, Luzhetskyy A, **Ostash B**. A database of sequenced *Streptomyces albus* J1074 genomes and uses thereof. Visn. Lviv. Univ. Ser. Biol. – 2022. – Vol. 86. – P. 26–34. DOI: 10.30970/vlubs.2021.85.03
2. Melnyk S, Hrab P, **Ostash B**. Genomic potential of *Streptomyces roseochromogenes* for the production of specialized metabolites: analysis *in silico*. Visn. Lviv. Univ. Ser. Biol. – 2022. – Vol. 87. – P. 48–57. [HTTPS://DOI.ORG/10.30970/VLUBS.2022.87.04](https://doi.org/10.30970/vlubs.2022.87.04)
3. Rydkin O, O. Koshla, **B. Ostash**. The *mia* mutants of *Streptomyces albus* J1074 are prone to translational errors and susceptible to certain stressors. Visn. Lviv Univ. Ser. Biol. – 2021. – Vol. 84. – P.33–39. <http://dx.doi.org/10.30970/vlubs.2021.84.03>
4. **Ostash B**, Y. Misaki, B. Dolya, Y. Kharaton, T. Busche, A. Luzhetskyy, J. Kalinowski, K. Ochi, V. Fedorenko Generation and initial characterization of a collection of spontaneous *Streptomyces albus* J1074 mutants resistant to rifampicin. Factors Exper Evol. 2020. – Vol. 257. – P. 139–143. <https://doi.org/10.7124/FEEQ.v27.1316>
5. Mutenko H, **Ostash B**, Rothballer M, Weiss A, Schmid M, Hartmann A, Fedorenko V. Microbe-plant interactions between *Streptomyces* and model agricultural plants – *Hordeum vulgare* and *Lycopersicon esculentum* (Microtom) // Factors Exper Evol. – 2019. – T. 25. – C. 137–141. <https://doi.org/10.7124/FEEE.v25.1154>
6. Kuzhyk Y, Y. Rebets, I. Popko, I. Ostash, S. Walker, V. Fedorenko, **B. Ostash**. Tn5-based transposon mutagenesis of *Streptomyces ghanaensis* ATCC14672: searching for novel regulators of moenomycin production. Visn. Lviv Univ. Ser. Biol. – 2019. – Vol. 81. – P. 50–56. <http://dx.doi.org/10.30970/vlubs.2019.81.06>

## Invited talks and posters

Oral and poster presentation on the conference of Society of Industrial Microbiology and Biotechnology “Natural products discovery and development in genomic era”, (San Diego, CA), January 11–16, 2020. O. Yushchuk, I. Ostash, S. Melnyk, R. Suessmuth, J. Kalinowski, **B. Ostash**. Revealing cryptic secondary metabolome of *Streptomyces* via manipulation of global regulatory gene *adpA*. <https://sim.confex.com/sim/np2020/meetingapp.cgi/Paper/40268>

## Patents

1. International application № WO/2008/021367 (PCT/US2007/01799), C07K 14/00 (2006.01), C12N 15/52 (2006.01). Moenomycin biosynthesis-related compositions and methods of use thereof / Inventors: **B. Ostash**, S. Walker. Filed and owned by Harvard University. - № WO/2008/021367, filed on 13.08.2007; published on 25.08.2015. Valid until 2031. <https://patents.google.com/patent/US20100279980A1/en>
2. International application № WO/2009/046314 (PCT/US2008/078771), A01N 43/04 (2006.01), A61K 31/70 (2006.01), A61K 38/16 (2006.01). Moenomycin analogs, methods of synthesis, and uses thereof / Inventors: Kahne D., Walker S., Adachi M., Doud E., Shinichiro F., X. Lin., Zhang Y., Tsukamoto H., **Ostash B.** Filed and owned by Harvard University. - № WO/2009/046314, <https://patents.google.com/patent/EP2205074A2/en>

## Op-eds

Piven O, Pokrytiuk V, Kasianchuk N, **Ostash B**, Dekina S, Panchuk R, Boldyriev O, Bashynska V, Zaremba A, Faidiuk Y, Obolenskaya MY, Polishchuk A, Petrenko O. The resilience of Ukrainian scientists. *Cell Syst.* 2024 Apr 17;15(4):298-304. doi: 10.1016/j.cels.2024.03.006. PMID: 38636455.