

Assoc Professor. Tony Velkov
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Biography

One of the most outstanding accomplishments of modern medicine was the development of antibiotics for treatment of bacterial infections that were widely fatal. However, due to a marked decline in discovery of new antibiotics over the past few decades, the world is now facing an enormous threat from the emergence of bacteria that are resistant to all available antibiotics. A/Prof Velkov is a world leading expert in several aspects of antibiotic pharmacology, including their mode of action, chemistry, structure-activity relationships and toxicity. His advocacy for commercialization and stewardship of antibiotics is commendable, together with Professor Jian Li he established and co-leads The Victorian Antimicrobial Discovery Group; and co-founded the Global Initiative on Antimicrobial Computational Pharmacology. He has extensive international industry experience, having been awarded two NHMRC industry fellowships and a REDI MPTConnect Industry Fellowship. He was recognised by the NHMRC with Excellence Awards in 2011 and again in 2015. The significant impact of his anti-infective research was highlighted by the NHMRC through a 'Ten of the Best' award for his novel lipopeptide discovery project grant. He has a unique setup in his laboratory for developing novel lipopeptide and depsi-peptide antibiotics targeting multi-resistant superbugs (from drug design, chemistry synthesis, in vitro models to in vivo safety and efficacy evaluations). A/Prof Velkov has published >240 papers on antibiotic drug discovery, PK/PD, pharmacology and resistance. He is a key opinion leader in my field ranked first among 14,673 experts in polymyxin chemistry research globally expertscape.com/ex/polymyxin. A/Velkov serves on Editorial boards (Br J Pharmacol, Molecules, Vaccine, J Adv Science) and a regular invited reviewer for prominent international journals (e.g. Nat Med). He is a serving member of several professional societies, including American Society for Microbiology, Australian Society for Biochemistry and Molecular Biology, Australian Pharmaceutical Science Association, Australian Thoracic Society. A/Prof Velkov serves as a regular reviewer of grant applications for various government bodies including the National Institute of Health (US), National Health and Medical Research Council, Australian Research Council, New Zealand Marsden Fund, the European Society of Clinical Microbiology and Infectious Diseases, Wellcome Trust (UK), Research Councils UK (RCUK), the Netherlands Organisation for Scientific Research, French National Research Agency and Israel Science Foundation. His internationally leading research is underpinned by an exceptional track record in advancing projects to clinical development and commercialisation of intellectual property through his extensive academic-industry partnerships. A/Prof Velkov's international leadership is also demonstrated by significant continuous funding support from major Australian and international granting bodies. Since 2004 he has been awarded 25 grants (14 as lead) by the USA NIH (\$17M, 6 R01 projects), USA Department of Defence (\$2M), and Australian NHMRC/ARC (\$8.2M). As NIH funds are extremely competitive, the multiple R01 awards to Australian researcher are an exceptional accomplishment and have immensely enhanced Australia's reputation and international standing. His innovative research is encompassed by complementary and integrated streams that encompass the 'lab bench to bedside' doctrine and efficiently translate his multidisciplinary research to clinical practice and pharmaceutical products.

Employment

Associate Professor

Pharmacology
MONASH UNIVERSITY
13 Jun 2022 → present

Editor, British Journal of Pharmacology

John Wiley & Sons Limited (United Kingdom)
Oxford, United Kingdom

Adjunct, Principle Research Fellow, Department of Biochemistry and Pharmacology

University of Melbourne
Parkville, Australia

Research outputs

Model-informed dose optimisation of polymyxin-rifampicin combination therapy against multidrug-resistant *Acinetobacter baumannii*

Zhao, J., Zhu, Y., Han, M-L., Lu, J., Yu, H. H., Wickremasinghe, H., Zhou, Q. T., Bergen, P., Rao, G., Velkov, T., Lin, Y-W. & Li, J., Sept 2023, In: International Journal of Antimicrobial Agents. 62, 3, 13 p., 106902.

Lipid A Modification and Metabolic Adaptation in Polymyxin-Resistant, New Delhi Metallo- β -Lactamase-Producing *Klebsiella pneumoniae*

Lu, J., Han, M., Yu, H. H., Bergen, P. J., Liu, Y., Zhao, J., Wickremasinghe, H., Jiang, X., Hu, Y., Du, H., Zhu, Y. & Velkov, T., 17 Aug 2023, In: Microbiology Spectrum. 11, 4, 14 p., e0085223.

Mutations in the Vicinity of the IRAK3 Guanylate Cyclase Center Impact Its Subcellular Localization and Ability to Modulate Inflammatory Signaling in Immortalized Cell Lines

Turek, I., Nguyen, T. H., Galea, C., Abad, I., Freihat, L., Manallack, D. T., Velkov, T. & Irving, H., May 2023, In: International Journal of Molecular Sciences. 24, 10, 19 p., 8572.

Proof-of-concept for incorporating mechanistic insights from multi-omics analyses of polymyxin B in combination with chloramphenicol against *Klebsiella pneumoniae*

Hanafin, P. O., Abdul Rahim, N., Sharma, R., Cess, C. G., Finley, S. D., Bergen, P. J., Velkov, T., Li, J. & Rao, G. G., Mar 2023, In: CPT: Pharmacometrics and Systems Pharmacology. 12, 3, p. 387-400 14 p.

Transcriptomic Mapping of Neurotoxicity Pathways in the Rat Brain in Response to Intraventricular Polymyxin B

Lu, J., Zhu, Y., Parkington, H. C., Hussein, M., Zhao, J., Bergen, P., Rudd, D., Deane, M. A., Oberrauch, S., Cornthwaite-Duncan, L., Allobawi, R., Sharma, R., Rao, G., Li, J. & Velkov, T., Mar 2023, In: Molecular Neurobiology. 60, 3, p. 1317-1330 14 p.

Critical Role of Position 10 Residue in the Polymyxin Antimicrobial Activity

Patil, N. A., Ma, W., Jiang, X., He, X., Yu, H. H., Wickremasinghe, H., Wang, J., Thompson, P. E., Velkov, T., Roberts, K. D. & Li, J., 6 Feb 2023, In: Journal of Medicinal Chemistry. 66, 4, p. 2865-2876 12 p.

Transcriptomic Responses to Polymyxin B and Analogues in Human Kidney Tubular Cells

Li, M., Azad, M. A. K., Thompson, P. E., Roberts, K. D., Velkov, T., Zhu, Y. & Li, J., Feb 2023, In: Antibiotics. 12, 2, 14 p., 415.

Comparative Proteomics of Outer Membrane Vesicles from Polymyxin-Susceptible and Extremely Drug-Resistant *Klebsiella pneumoniae*

Hussein, M., Jasim, R., Gocol, H., Baker, M., Thombare, V. J., Ziogas, J., Purohit, A., Rao, G. G., Li, J. & Velkov, T., Jan 2023, In: mSphere. 8, 1, 14 p.

Bifunctional antibiotic hybrids: A review of clinical candidates

Koh, A. J. J., Thombare, V., Hussein, M., Rao, G. G., Li, J. & Velkov, T., 2023, In: Frontiers in Pharmacology. 14, 13 p., 1158152.

Drug Repurposing Approaches towards Defeating Multidrug-Resistant Gram-Negative Pathogens: Novel Polymyxin/Non-Antibiotic Combinations

Koh Jing Jie, A., Hussein, M., Rao, G. G., Li, J. & Velkov, T., Dec 2022, In: Pathogens. 11, 12, 20 p., 1420.

Integrated metabolomic and transcriptomic analyses of the synergistic effect of polymyxin-rifampicin combination against *Pseudomonas aeruginosa*

Mahamad Maifiah, M. H., Zhu, Y., Tsuji, B. T., Creek, D. J., Velkov, T. & Li, J., Dec 2022, In: Journal of Biomedical Science. 29, 1, 19 p., 89.

T-2 toxin and its cardiotoxicity: New insights on the molecular mechanisms and therapeutic implications

Dai, C., Das Gupta, S., Wang, Z., Jiang, H., Velkov, T. & Shen, J., Sept 2022, In: Food and Chemical Toxicology. 167, 13 p., 113262.

Rat Burn Model to Study Full-Thickness Cutaneous Thermal Burn and Infection

Sharma, R., Yeshwante, S., Vallé, Q., Hussein, M., Thombare, V., McCann, S. M., Maile, R., Li, J., Velkov, T. & Rao, G., 23 Aug 2022, In: Journal of Visualized Experiments. 186

An Intelligent Strategy with All-Atom Molecular Dynamics Simulations for the Design of Lipopeptides against Multidrug-Resistant *Pseudomonas aeruginosa*

Jiang, X., Han, M., Tran, K., Patil, N. A., Ma, W., Roberts, K. D., Xiao, M., Sommer, B., Schreiber, F., Wang, L., Velkov, T. & Li, J., 28 Jul 2022, In: Journal of Medicinal Chemistry. 65, 14, p. 10001-10013 13 p.

Polymyxin dose tunes the evolutionary dynamics of resistance in multidrug-resistant *Acinetobacter baumannii*

Zhao, J., Zhu, Y., Lin, Y. W., Yu, H., Wickremasinghe, H., Han, J., Velkov, T., McDonald, M. J. & Li, J., Jul 2022, In: Clinical Microbiology and Infection. 28, 7, p. 1026.e1-1026.e5 5 p.

Inwardly rectifying potassium channels mediate polymyxin-induced nephrotoxicity

Lu, J., Azad, M. A. K., Moreau, J. L. M., Zhu, Y., Jiang, X., Tonta, M., Lam, R., Wickremasinghe, H., Zhao, J., Wang, J., Coleman, H. A., Formosa, L. E., Velkov, T., Parkington, H. C., Combes, A. N., Rosenbluh, J. & Li, J., Jun 2022, In: Cellular and Molecular Life Sciences. 79, 6, 16 p., 296.

Colistin-induced pulmonary toxicity involves the activation of NOX4/TGF- β /mtROS pathway and the inhibition of Akt/mTOR pathway

Dai, C., Li, M., Sun, T., Zhang, Y., Wang, Y., Shen, Z., Velkov, T., Tang, S. & Shen, J., May 2022, In: Food and Chemical Toxicology. 163, 16 p., 112966.

Mechanisms Underlying Synergistic Killing of Polymyxin B in Combination with Cannabidiol against *Acinetobacter baumannii*: A Metabolomic Study

Hussein, M., Allobawi, R., Levou, I., Blaskovich, M. A. T., Rao, G. G., Li, J. & Velkov, T., Apr 2022, In: Pharmaceutics. 14, 4, 19 p., 786.

An Efficient Approach for the Design and Synthesis of Antimicrobial Peptide-Peptide Nucleic Acid Conjugates

Patil, N. A., Thombare, V. J., Li, R., He, X., Lu, J., Yu, H. H., Wickremasinghe, H., Pamulapati, K., Azad, M. A. K., Velkov, T., Roberts, K. D. & Li, J., 15 Mar 2022, In: Frontiers in Chemistry. 10, 10 p., 843163.

Correlative proteomics identify the key roles of stress tolerance strategies in *Acinetobacter baumannii* in response to polymyxin and human macrophages

Kho, Z. Y., Azad, M. A. K., Han, M-L., Zhu, Y., Huang, C., Schittenhelm, R. B., Naderer, T., Velkov, T., Selkrig, J., Zhou, Q. T. & Li, J., 1 Mar 2022, In: PLoS Pathogens. 18, 3, p. e1010308 25 p.

Intraventricular Drug Delivery and Sampling for Pharmacokinetics and Pharmacodynamics Study

Oberrauch, S., Lu, J., Cornthwaite-Duncan, L., Hussein, M., Li, J., Rao, G. & Velkov, T., Mar 2022, In: Journal of Visualized Experiments. 2022, 181, 15 p., e63540.

Polymyxin Induces Significant Transcriptomic Perturbations of Cellular Signalling Networks in Human Lung Epithelial Cells

Li, M., Azad, M. A. K., Ahmed, M. U., Zhu, Y., Song, J., Zhou, F., Chan, H. K., Velkov, T., Zhou, Q. T. & Li, J., Mar 2022, In: Antibiotics. 11, 3, 14 p., 307.

The Natural Product Curcumin as an Antibacterial Agent: Current Achievements and Problems

Dai, C., Lin, J., Li, H., Shen, J., Shen, Z., Wang, Y. & Velkov, T., Mar 2022, In: Antioxidants. 11, 3, 21 p., 459.

Polymyxin causes cell envelope remodelling and stress responses in *mcr-1*-harbouring *Escherichia coli*

Nang, S. C., Li, M., Harper, M., Mandela, E., Bergen, P. J., Rolain, J. M., Zhu, Y., Velkov, T. & Li, J., Feb 2022, In: International Journal of Antimicrobial Agents. 59, 2, 7 p., 106505.

p21 restricts influenza A virus by perturbing the viral polymerase complex and upregulating type I interferon signaling

Ma, C., Li, Y., Zong, Y., Velkov, T., Wang, C., Yang, X., Zhang, M., Jiang, Z., Sun, H., Tong, Q., Sun, H., Pu, J., Iqbal, M., Liu, J., Dai, C. & Sun, Y., Feb 2022, In: PLoS Pathogens. 18, 2, 26 p., e1010295.

Untargeted metabolomics to evaluate polymyxin B toxicodynamics following direct intracerebroventricular administration into the rat brain

Hussein, M., Oberrauch, S., Allobawi, R., Cornthwaite-Duncan, L., Lu, J., Sharma, R., Baker, M., Li, J., Rao, G. G. & Velkov, T., Jan 2022, In: Computational and Structural Biotechnology Journal. 20, p. 6067-6077 11 p.

A synthetic lipopeptide targeting top-priority multidrug-resistant Gram-negative pathogens

Roberts, K. D., Zhu, Y., Azad, M. A. K., Han, M. L., Wang, J., Wang, L., Yu, H. H., Horne, A. S., Pinson, J. A., Rudd, D., Voelcker, N. H., Patil, N. A., Zhao, J., Jiang, X., Lu, J., Chen, K., Lomovskaya, O., Hecker, S. J., Thompson, P. E., Nation, R. L., & 4 othersDudley, M. N., Griffith, D. C., Velkov, T. & Li, J., 2022, In: Nature Communications. 13, 1, 15 p., 1625.

Comparative metabolomics revealed key pathways associated with the synergistic killing of multidrug-resistant *Klebsiella pneumoniae* by a bacteriophage-polymyxin combination

Han, M-L., Nang, S. C., Lin, Y-W., Zhu, Y., Yu, H. H., Wickremasinghe, H., Barlow, C. K., Creek, D. J., Crawford, S., Rao, G., Dai, C., Barr, J. J., Chan, K., Turner Schooley, R., Velkov, T. & Li, J., 2022, In: Computational and Structural Biotechnology Journal. 20, p. 485-495 11 p.

Unique mechanistic insights into pathways associated with the synergistic activity of polymyxin B and caspofungin against multidrug-resistant *Klebsiella pneumoniae*

Hussein, M., Wong, L. J. M., Zhao, J., Rees, V. E., Allobawi, R., Sharma, R., Rao, G. G., Baker, M., Li, J. & Velkov, T., 2022, In: Computational and Structural Biotechnology Journal. 20, p. 1077-1087 11 p.

A novel chemical biology and computational approach to expedite the discovery of new-generation polymyxins against life-threatening *Acinetobacter baumannii*

Jiang, X., Patil, N. A., Azad, M. A. K., Wickremasinghe, H., Yu, H., Zhao, J., Zhang, X., Li, M., Gong, B., Wan, L., Ma, W., Thompson, P. E., Yang, K., Yuan, B., Schreiber, F., Wang, L., Velkov, T., Roberts, K. D. & Li, J., 28 Sept 2021, In: Chemical Science. 12, 36, p. 12211-12220 10 p.

Polymyxin-induced metabolic perturbations in human lung epithelial cells

Ahmed, M. U., Azad, M. A. K., Li, M., Creek, D. J., Han, M., Zhou, F., Chan, K., Zhou, Q. T., Velkov, T. & Li, J., Sept 2021, In: Antimicrobial Agents and Chemotherapy. 65, 9, 13 p., 00835.

Insights Into Patient Variability During Ivacaftor-Lumacaftor Therapy in Cystic Fibrosis

Hanafin, P. O., Sermet-Gaudelus, I., Griese, M., Kappler, M., Ellemunter, H., Schwarz, C., Wilson, J., Tan, M., Velkov, T., Rao, G. G. & Schneider-Futschik, E. K., 2 Aug 2021, In: Frontiers in Pharmacology. 12, 9 p., 577263.

Nuclear heterogeneity is prevalent in high-quality fractionated human sperm cells typically used for assisted conception
Ogle, R. A., Netherton, J., Schneider, E., Velkov, T., Zhang, H., Cole, N., Hetherington, L., Villaverde, A. I. S. B. & Baker, M. A., Aug 2021, In: Human Reproduction. 36, 8, p. 2073-2082 10 p.

A precision medicine approach to optimize modulator therapy for rare cfr folding mutants

Veit, G., Velkov, T., Xu, H., Vadeboncoeur, N., Bilodeau, L., Matouk, E. & Lukacs, G. L., Jul 2021, In: Journal of Personalized Medicine. 11, 7, 14 p., 643.

Synergy of the Polymyxin-Chloramphenicol Combination against New Delhi Metallo- β -Lactamase-Producing *Klebsiella pneumoniae* Is Predominately Driven by Chloramphenicol

Abdul Rahim, N., Zhu, Y., Cheah, S-E., Johnson, M. D., Yu, H. H., Sidjabat, H. E., Butler, M. S., Cooper, M. A., Fu, J., Paterson, D. L., Nation, R. L., Boyce, J. D., Creek, D. J., Bergen, P. J., Velkov, T. & Li, J., 11 Jun 2021, In: ACS Infectious Diseases. 7, 6, p. 1584-1595 12 p.

Inhibition of oxidative stress and alox12 and nf-kb pathways contribute to the protective effect of baicalein on carbon tetrachloride-induced acute liver injury

Dai, C., Li, H., Wang, Y., Tang, S., Velkov, T. & Shen, J., Jun 2021, In: Antioxidants. 10, 6, 18 p., 976.

Polymyxins for the treatment of lower respiratory tract infections: lessons learned from the integration of clinical pharmacokinetic studies and clinical outcomes

Almangour, T. A., Garcia, E., Zhou, Q., Forrest, A., Kaye, K. S., Li, J., Velkov, T. & Rao, G. G., Jun 2021, In: International Journal of Antimicrobial Agents. 57, 6, 11 p., 106328.

Synchrotron-based x-ray fluorescence microscopy reveals accumulation of polymyxins in single human alveolar epithelial cells

Azad, M. A. K., Zhang, S., Li, J., Kim, Y., Yu, H. H., Fulcher, A. J., Howard, D. L., De Jonge, M. D., James, S. A., Roberts, K. D., Velkov, T., Fu, J., Zhou, Q. T. & Li, J., May 2021, In: *Antimicrobial Agents and Chemotherapy*. 65, 5, 9 p., e02314-20.

Rescuing the Last-Line Polymyxins: Achievements and Challenges

Nang, S. C., Azad, M. A. K., Velkov, T., Zhou, Q. T. & Li, J., 1 Apr 2021, In: *Pharmacological Reviews*. 73, 2, p. 679-728 50 p.

Clinically relevant concentrations of polymyxin B and meropenem synergistically kill multidrug-resistant *Pseudomonas aeruginosa* and minimize biofilm formation

Wickremasinghe, H., Yu, H. H., Azad, M. A. K., Zhao, J., Bergen, P. J., Velkov, T., Zhou, Q. T., Zhu, Y. & Li, J., Apr 2021, In: *Antibiotics*. 10, 4, 18 p., 405.

Evaluation Strategies for Triple-Drug Combinations against Carbapenemase-Producing *Klebsiella Pneumoniae* in an *In Vitro* Hollow-Fiber Infection Model

Garcia, E., Diep, J. K., Sharma, R., Hanafin, P. O., Abboud, C. S., Kaye, K. S., Li, J., Velkov, T. & Rao, G. G., Apr 2021, In: *Clinical Pharmacology & Therapeutics*. 109, 4, p. 1074-1080 7 p.

***In vitro* evaluation of drug delivery behavior for inhalable amorphous nanoparticle formulations in a human lung epithelial cell model**

Chen, J., Ahmed, M. U., Zhu, C., Yu, S., Pan, W., Velkov, T., Li, J. & (Tony) Zhou, Q., 1 Mar 2021, In: *International Journal of Pharmaceutics*. 596, 12 p., 120211.

Comparative metabolomics reveals key pathways associated with the synergistic activity of polymyxin B and rifampicin combination against multidrug-resistant *Acinetobacter baumannii*

Zhao, J., Han, M-L., Zhu, Y., Lin, Y-W., Wang, Y-W., Lu, J., Hu, Y., Tony Zhou, Q., Velkov, T. & Li, J., Feb 2021, In: *Biochemical Pharmacology*. 184, 11 p., 114400.

Coarse-grained simulations uncover Gram-negative bacterial defense against polymyxins by the outer membrane

Jiang, X., Sun, Y., Yang, K., Yuan, B., Velkov, T., Wang, L. & Li, J., 2021, In: *Computational and Structural Biotechnology Journal*. 19, p. 3885-3891 7 p.

DNA variants are an unlikely explanation for the changing quality of spermatozoa within the same individual

Netherton, J., Ogle, R., Hetherington, L., Velkov, T., Rose, R. & Baker, M., 2021, In: *Human Fertility*. 24, 5, p. 376-388 13 p.

Molecular dynamics simulations informed by membrane lipidomics reveal the structure-interaction relationship of polymyxins with the lipid A-based outer membrane of *Acinetobacter baumannii*

Jiang, X., Yang, K., Yuan, B., Han, M., Zhu, Y., Roberts, K. D., Patil, N. A., Li, J., Gong, B., Hancock, R. E. W., Velkov, T., Schreiber, F., Wang, L. & Li, J., Dec 2020, In: *Journal of Antimicrobial Chemotherapy*. 75, 12, p. 3534-3543 10 p.

Structure-Activity Relationships of Daptomycin Lipopeptides

Karas, J. A., Carter, G. P., Howden, B. P., Turner, A. M., Paulin, O. K. A., Swarbrick, J. D., Baker, M. A., Li, J. & Velkov, T., 25 Nov 2020, In: *Journal of Medicinal Chemistry*. 63, 22, p. 13266-13290 25 p.

Simulations of octapeptin-outer membrane interactions reveal conformational flexibility is linked to antimicrobial potency

Jiang, X., Yang, K., Yuan, B., Gong, B., Wan, L., Patil, N. A., Swarbrick, J. D., Roberts, K. D., Schreiber, F., Wang, L., Velkov, T. & Li, J., 20 Nov 2020, In: *Journal of Biological Chemistry*. 295, 47, p. 15902-15912 11 p.

Sialylation of Asparagine 612 Inhibits Aconitase Activity during Mouse Sperm Capacitation; a Possible Mechanism for the Switch from Oxidative Phosphorylation to Glycolysis

Villaverde, A. I. S. B., Ogle, R. A., Lewis, P., Carbone, V., Velkov, T., Netherton, J. K. & Baker, M. A., 1 Nov 2020, In: *Molecular & Cellular Proteomics*. 19, 11, p. 1860-1875 16 p.

Genome-scale metabolic modeling reveals metabolic alterations of multidrug-resistant acinetobacter Baumannii in a murine bloodstream infection model

Zhao, J., Zhu, Y., Han, J., Lin, Y. W., Aichele, M., Wang, J., Chen, K., Velkov, T., Schreiber, F. & Li, J., Nov 2020, In: Microorganisms. 8, 11, 18 p., 1793.

Outer Membranes of Polymyxin-Resistant Acinetobacter baumannii with Phosphoethanolamine-Modified Lipid A and Lipopolysaccharide Loss Display Different Atomic-Scale Interactions with Polymyxins

Jiang, X., Yang, K., Han, M. L., Yuan, B., Li, J., Gong, B., Velkov, T., Schreiber, F., Wang, L. & Li, J., 9 Oct 2020, In: ACS Infectious Diseases. 6, 10, p. 2698-2708 11 p.

Lipid A profiling and metabolomics analysis of paired polymyxinsusceptible and-resistant MDR Klebsiella pneumoniae clinical isolates from the same patients before and after colistin treatment

Aye, S. M., Galani, I., Han, M. L., Karaiskos, I., Creek, D. J., Zhu, Y., Lin, Y. W., Velkov, T., Giamarellou, H. & Li, J., Oct 2020, In: Journal of Antimicrobial Chemotherapy. 75, 10, p. 2852-2863 12 p.

Structure-Interaction Relationship of Polymyxins with the Membrane of Human Kidney Proximal Tubular Cells

Jiang, X., Zhang, S., Azad, M. A. K., Roberts, K. D., Wan, L., Gong, B., Yang, K., Yuan, B., Uddin, H., Li, J., Thompson, P. E., Velkov, T., Fu, J., Wang, L. & Li, J., 14 Aug 2020, In: ACS Infectious Diseases. 6, 8, p. 2110-2119 10 p.

Polymyxins Bind to the Cell Surface of Unculturable Acinetobacter baumannii and Cause Unique Dependent Resistance

Zhu, Y., Lu, J., Han, M-L., Jiang, X., Azad, M. A. K., Patil, N. A., Lin, Y-W., Zhao, J., Hu, Y., Yu, H. H., Chen, K., Boyce, J. D., Dunstan, R. A., Lithgow, T., Barlow, C. K., Li, W., Schneider-Futschik, E. K., Wang, J., Gong, B., Sommer, B., & 6 othersCreek, D. J., Fu, J., Wang, L., Schreiber, F., Velkov, T. & Li, J., 5 Aug 2020, In: Advanced Science. 7, 15, 13 p., 2000704.

Pan-transcriptomic analysis identified common differentially expressed genes of Acinetobacter baumannii in response to polymyxin treatments

Li, M., Aye, S. M., Ahmed, M. U., Han, M-L., Li, C., Song, J., Boyce, J. D., Powell, D. R., Azad, M. A. K., Velkov, T., Zhu, Y. & Li, J., 1 Aug 2020, In: Molecular Omics. 16, 4, p. 327-338 12 p.

Allosteric folding correction of F508del and rare CFTR mutants by elexacaftor-tezacaftor-ivacaftor (Trikafta) combination
Veit, G., Roldan, A., Hancock, M. A., da Fonte, D. F., Xu, H., Hussein, M., Frenkiel, S., Matouk, E., Velkov, T. & Lukacs, G. L., Aug 2020, In: JCI Insight. 5, 18, 15 p., e139983.

Polymyxin-induced cell death of human macrophage-like THP-1 and neutrophil-like HL-60 cells associated with the activation of apoptotic pathways

Fathalla, A. M., Chow, S. H., Naderer, T., Zhou, Q. T., Velkov, T., Azad, M. A. K. & Li, J., Aug 2020, In: Antimicrobial Agents and Chemotherapy. 64, 9, 12 p., e00013-20.

Transcriptomic responses of a New Delhi metallo-β-lactamase-producing Klebsiella pneumoniae isolate to the combination of polymyxin B and chloramphenicol

Abdul Rahim, N., Cheah, S. E., Johnson, M. D., Zhu, Y., Yu, H. H., Sidjabat, H. E., Butler, M. S., Cooper, M. A., Fu, J., Paterson, D. L., Nation, R. L., Boyce, J. D., Bergen, P. J., Velkov, T. & Li, J., Aug 2020, In: International Journal of Antimicrobial Agents. 56, 2, 9 p., 106061.

Polymyxin triple combinations against polymyxin-resistant, multidrug-resistant, KPC-producing klebsiella pneumoniae

Aye, S. M., Galani, I., Yu, H., Wang, J., Chen, K., Wickremasinghe, H., Karaiskos, I., Berge, P. J., Zhao, J., Velkov, T., Giamarellou, H., Lin, Y-W., Tsuj, B. T. & Li, J., Jul 2020, In: Antimicrobial Agents and Chemotherapy. 64, 8, 12 p., e00246-20.

The antimicrobial activity of cannabinoids

Karas, J. A., Wong, L. J. M., Paulin, O. K. A., Mazeh, A. C., Hussein, M. H., Li, J. & Velkov, T., Jul 2020, In: Antibiotics. 9, 7, 10 p., 406.

Effective Strategy Targeting Polymyxin-Resistant Gram-Negative Pathogens: Polymyxin B in Combination with the Selective Serotonin Reuptake Inhibitor Sertraline

Hussein, M., Schneider-Futschik, E. K., Paulin, O. K. A., Allobawi, R., Crawford, S., Zhou, Q. T., Hanif, A., Baker, M., Zhu, Y., Li, J. & Velkov, T., 12 Jun 2020, In: ACS Infectious Diseases. 6, 6, p. 1436-1450 15 p.

Nerve Growth Factor Confers Neuroprotection against Colistin-Induced Peripheral Neurotoxicity

Dai, C., Xiong, J., Wang, Y., Shen, J., Velkov, T. & Xiao, X., 12 Jun 2020, In: ACS Infectious Diseases. 6, 6, p. 1451-1459 9 p.

Polymyxins–curcumin combination antimicrobial therapy: Safety implications and efficacy for infection treatment

Dai, C., Wang, Y., Sharma, G., Shen, J., Velkov, T. & Xiao, X., Jun 2020, In: Antioxidants. 9, 6, p. 1-18 18 p., 506.

The killing mechanism of teixobactin against methicillin-resistant *Staphylococcus aureus*: An untargeted metabolomics study

Hussein, M., Karas, J. A., Schneider-Futschik, E. K., Chen, F., Swarbrick, J., Paulin, O. K. A., Hoyer, D., Hoyer, D., Hoyer, D., Baker, M., Zhu, Y., Li, J. & Velkov, T., Jun 2020, In: mSystems. 5, 3, 16 p., e00077-20.

Curcumin Attenuates Colistin-Induced Peripheral Neurotoxicity in Mice

Dai, C., Xiao, X., Zhang, Y., Xiang, B., Hoyer, D., Shen, J., Velkov, T. & Tang, S., 10 Apr 2020, In: ACS Infectious Diseases. 6, 4, p. 715-724 10 p.

Regulating polymyxin resistance in Gram-negative bacteria: roles of two-component systems PhoPQ and PmrAB

Huang, J., Li, C., Song, J., Velkov, T., Wang, L., Zhu, Y. & Li, J., 6 Apr 2020, In: Future Microbiology. 15, 6, p. 445-459 15 p.

Complete genome sequence and genome-scale metabolic modelling of *Acinetobacter baumannii* type strain ATCC 19606

Zhu, Y., Lu, J., Zhao, J., Zhang, X., Yu, H. H., Velkov, T. & Li, J., Apr 2020, In: International Journal of Medical Microbiology. 310, 3, 11 p., 151412.

Structure of micelle bound cationic peptides by NMR spectroscopy using a lanthanide shift reagent

Swarbrick, J. D., Karas, J. A., Li, J. & Velkov, T., 7 Mar 2020, In: Chemical Communications. 56, 19, p. 2897-2900 4 p.

Inhalable liposomal powder formulations for co-delivery of synergistic ciprofloxacin and colistin against multi-drug resistant gram-negative lung infections

Yu, S., Wang, S., Zou, P., Chai, G., Lin, Y-W., Velkov, T., Li, J., Pan, W. & Zhou, Q. T., 15 Feb 2020, In: International Journal of Pharmaceutics. 575, 10 p., 118915.

Correction to: Mass Spectrometry Reveals New Insights into the Production of Superoxide Anions and 4-Hydroxynonenal Adducted Proteins in Human Sperm (PROTEOMICS, (2020), 20, 2, (1900205), 10.1002/pmic.201900205)

Kendal Netherton, J., Hetherington, L., Anne Ogle, R., Mazloumi Gavvani, M., Velkov, T., Isabel Silva Bilbin Villaverde, A., Tanphaichitr, N. & Andrew Baker, M., Feb 2020, In: Proteomics. 20, 3-4, 1 p., 2070024.

Mass Spectrometry Reveals New Insights into the Production of Superoxide Anions and 4-Hydroxynonenal Adducted Proteins in Human Sperm

Netherton, J. K., Hetherington, L., Ogle, R. A., Gavvani, M. M., Velkov, T., Villaverde, A. I. S. B., Tanphaichitr, N. & Baker, M. A., Jan 2020, In: Proteomics. 20, 2, 12 p., 1900205.

Metabolomics Study of the Synergistic Killing of Polymyxin B in Combination with Amikacin against Polymyxin-Susceptible and -Resistant *Pseudomonas aeruginosa*

Hussein, M., Han, M-L., Zhu, Y., Zhou, Q., Lin, Y-W., Hancock, R. E. W., Hoyer, D., Creek, D. J., Li, J. & Velkov, T., Jan 2020, In: Antimicrobial Agents and Chemotherapy. 64, 1, 16 p., e01587-19.

Synthesis and structure–activity relationships of teixobactin

Karas, J. A., Chen, F., Schneider-Futschik, E. K., Kang, Z., Hussein, M., Swarbrick, J., Hoyer, D., Giltrap, A. M., Payne, R. J., Li, J. & Velkov, T., Jan 2020, In: Annals of the New York Academy of Sciences. 1459, 1, p. 86-105 20 p.

Polymyxin B combinations with FDA-approved non-antibiotic phenothiazine drugs targeting multi-drug resistance of Gram-negative pathogens

Hussein, M., Hu, X., Paulin, O. K. A., Crawford, S., Tony Zhou, Q., Baker, M., Schneider-Futschik, E. K., Zhu, Y., Li, J. & Velkov, T., 2020, In: Computational and Structural Biotechnology Journal. 18, p. 2247-2258 12 p.

An optimised Cu(0)-RDRP approach for the synthesis of lipidated oligomeric vinyl azlactone: toward a versatile antimicrobial materials screening platform

Grace, J. L., Amado, M., Reid, J. C., Elliott, A. G., Landersdorfer, C. B., Truong, N. P., Kempe, K., Cooper, M. A., Davis, T. P., Montebault, V., Pascual, S., Fontaine, L., Velkov, T., Quinn, J. F. & Whittaker, M. R., 21 Nov 2019, In: Journal of Materials Chemistry B. 7, 43, p. 6796-6809 14 p.

Contemporary Anti-Ebola Drug Discovery Approaches and Platforms

Schneider-Futschik, E. K., Hoyer, D., Khromykh, A. A., Baell, J. B., Marsh, G. A., Baker, M. A., Li, J. & Velkov, T., 1 Nov 2019, In: ACS Infectious Diseases. 5, 1, p. 35-48 14 p.

Polymyxin resistance in *Klebsiella pneumoniae*: multifaceted mechanisms utilized in the presence and absence of the plasmid-encoded phosphoethanolamine transferase gene *mcr-1*

Nang, S. C., Han, M-L., Yu, H. H., Wang, J., Torres, V. V. L., Dai, C., Velkov, T., Harper, M. & Li, J., 1 Nov 2019, In: Journal of Antimicrobial Chemotherapy. 74, 11, p. 3190-3198 9 p.

T-2 toxin neurotoxicity: role of oxidative stress and mitochondrial dysfunction

Dai, C., Xiao, X., Sun, F., Zhang, Y., Hoyer, D., Shen, J., Tang, S. & Velkov, T., Nov 2019, In: Archives of Toxicology. 93, 11, p. 3041-3056 16 p.

Synergistic Combination of Polymyxin B and Enrofloxacin Induced Metabolic Perturbations in Extensive Drug-resistant *Pseudomonas aeruginosa*

Lin, Y-W., Han, M-L., Zhao, J., Zhu, Y., Rao, G., Forrest, A., Song, J., Kaye, K. S., Hertzog, P., Purcell, A., Creek, D., Zhou, T. Q., Velkov, T. & Li, J., 3 Oct 2019, In: Frontiers in Pharmacology. 10, 11 p., 1146.

Multifaceted mechanisms of colistin resistance revealed by genomic analysis of multidrug-resistant *Klebsiella pneumoniae* isolates from individual patients before and after colistin treatment

Zhu, Y., Galani, I., Karaiskos, I., Lu, J., Aye, S. M., Huang, J., Yu, H. H., Velkov, T., Giamarellou, H. & Li, J., 1 Oct 2019, In: Journal of Infection. 79, 4, p. 312-321 10 p.

The impact of backbone N-methylation on the structure-activity relationship of Leu₁₀-teixobactin

Velkov, T., Swarbrick, J. D., Hussein, M. H., Schneider-Futschik, E. K., Hoyer, D., Li, J. & Karas, J. A., Sept 2019, In: Journal of Peptide Science. 25, 9, 9 p., e3206.

Comparative Metabolomics Reveals Key Pathways Associated With the Synergistic Killing of Colistin and Sulbactam Combination Against Multidrug-Resistant *Acinetobacter baumannii*

Han, M-L., Liu, X., Velkov, T., Lin, Y-W., Zhu, Y., Creek, D. J., Barlow, C. K., Yu, H. H., Zhou, Z., Zhang, J. & Li, J., 4 Jul 2019, In: Frontiers in Pharmacology. 10, 11 p., 754.

Effects of the antibiotic component on in-vitro bacterial killing, physico-chemical properties, aerosolization and dissolution of a ternary-combinational inhalation powder formulation of antibiotics for pan-drug resistant Gram-negative lung infections

Mangal, S., Huang, J., Shetty, N., Park, H., Lin, Y., Yu, H. H., Zemlyanov, D., Velkov, T., Li, J. & Zhou, Q., 20 Apr 2019, In: International Journal of Pharmaceutics. 561, p. 102-113 12 p.

Novel polymyxin combination with the antiretroviral zidovudine exerts synergistic killing against Ndm-producing multidrug-resistant *klebsiella pneumoniae*

Lin, Y-W., Rahim, N. A., Zhao, J., Han, M-L., Yu, H. H., Wickremasinghe, H., Chen, K., Wang, J., Paterson, D. L., Zhu, Y., Rao, G. G., Zhou, Q. T., Forrest, A., Velkov, T. & Li, J., 1 Apr 2019, In: Antimicrobial Agents and Chemotherapy. 63, 4, 11 p., e02176-18.

The rise and spread of mcr plasmid-mediated polymyxin resistance

Nang, S. C., Li, J. & Velkov, T., 4 Mar 2019, In: *Critical Reviews in Microbiology*. 45, 2, p. 131-161 31 p.

Metabolic Responses to Polymyxin Treatment in *Acinetobacter baumannii* ATCC 19606: Integrating Transcriptomics and Metabolomics with Genome-Scale Metabolic Modeling

Zhu, Y., Zhao, J., Maifiah, M. H. M., Velkov, T., Schreiber, F. & Li, J., Feb 2019, In: *mSystems*. 4, 1, 15 p., e00157-18.

Molecular Mechanisms of Neurotoxicity Induced by Polymyxins and Chemoprevention

Dai, C., Xiao, X., Li, J., Ciccotosto, G. D., Cappai, R., Tang, S., Schneider-Futschik, E. K., Hoyer, D., Velkov, T. & Shen, J., 16 Jan 2019, In: *ACS Chemical Neuroscience*. 10, 1, p. 120-131 12 p.

Comparative metabolomics and transcriptomics reveal multiple pathways associated with polymyxin killing in *Pseudomonas aeruginosa*

Han, M-L., Zhu, Y., Creek, D. J., Lin, Y-W., Gutu, A. D., Hertzog, P., Purcell, T., Shen, H-H., Moskowicz, S. M., Velkov, T. & Li, J., 1 Jan 2019, In: *mSystems*. 4, 1, 18 p., e00149-18.

Global Metabolic Analyses of *Acinetobacter baumannii*

Maifiah, M. H. M., Velkov, T., Creek, D. J. & Li, J., 1 Jan 2019, *Acinetobacter baumannii: Methods and Protocols*. Biswas, I. & Rather, P. N. (eds.). 1 ed. Humana Press, p. 321-328 8 p. (Methods in Molecular Biology; vol. 1946).

Intracellular localization of polymyxins in human alveolar epithelial cells

Ahmed, M. U., Velkov, T., Zhou, Q. T., Fulcher, A. J., Callaghan, J., Zhou, F., Chan, K., Azad, M. A. K. & Li, J., Jan 2019, In: *Journal of Antimicrobial Chemotherapy*. 74, 1, p. 48-57 10 p.

Discovery of Novel Polymyxin-Like Antibiotics

Velkov, T. & Roberts, K. D., 2019, *Polymyxin Antibiotics: From Laboratory Bench to Bedside*. Li, J., Nation, R. L. & Kaye, K. S. (eds.). Switzerland: Springer, p. 343-362 20 p. (Advances in Experimental Medicine and Biology; vol. 1145).

Discovery of Novel Polymyxin-Like Antibiotics

Velkov, T. & Roberts, K. D., 2019, *Advances in Experimental Medicine and Biology*. Li, J., Nation, R. L. & Kaye, K. S. (eds.). 1st ed. Cham Switzerland: Springer, p. 343-362 20 p. (Advances in Experimental Medicine and Biology; vol. 1145).

History, Chemistry and Antibacterial Spectrum

Velkov, T., Thompson, P. E., Azad, M. A. K., Roberts, K. D. & Bergen, P. J., 2019, *Polymyxin Antibiotics: From Laboratory Bench to Bedside*. Li, J., Nation, R. L. & Kaye, K. S. (eds.). 1st ed. Switzerland: Springer, p. 15-36 22 p. (Advances in Experimental Medicine and Biology; vol. 1145).

Mechanisms of Polymyxin-Induced Nephrotoxicity

Azad, M. A. K., Nation, R. L., Velkov, T. & Li, J., 2019, *Polymyxin Antibiotics: From Laboratory Bench to Bedside*. Li, J., Kaye, K. S. & Nation, R. L. (eds.). 1st ed. Switzerland: Springer, p. 305-319 15 p. (Advances in Experimental Medicine and Biology; vol. 1145).

Polymyxins: Mode of Action

Li, Z. & Velkov, T., 2019, *Advances in Experimental Medicine and Biology*. Li, J., Nation, R. L. & Kaye, K. S. (eds.). 1st ed. Cham Switzerland: Springer, p. 37-54 18 p. (Advances in Experimental Medicine and Biology; vol. 1145).

Exploiting macromolecular design to optimize the antibacterial activity of alkylated cationic oligomers

Grace, J. L., Schneider-Futschik, E. K., Elliott, A. G., Amado, M., Truong, N. P., Cooper, M. A., Li, J., Davis, T. P., Quinn, J. F., Velkov, T. & Whittaker, M. R., 10 Dec 2018, In: *Biomacromolecules*. 19, 12, p. 4629-4640 12 p.

Metabolic Analyses Revealed Time-Dependent Synergistic Killing by Colistin and Aztreonam Combination Against Multidrug-Resistant *Acinetobacter baumannii*

Han, M-L., Liu, X., Velkov, T., Lin, Y-W., Zhu, Y., Li, M., Yu, H. H., Zhou, Z., Creek, D. J., Zhang, J. & Li, J., 16 Nov 2018, In: *Frontiers in Microbiology*. 9, 12 p., 2776.

Composite particle formulations of colistin and meropenem with improved in-vitro bacterial killing and aerosolization for inhalation

Mangal, S., Park, H., Zeng, L., Yu, H. H., Lin, Y., Velkov, T., Denman, J. A., Zemlyanov, D., Li, J. & Zhou, Q., 5 Sept 2018, In: International Journal of Pharmaceutics. 548, 1, p. 443-453 11 p.

Lipidomic analysis of the outer membrane vesicles from paired polymyxin-susceptible and -resistant *Klebsiella pneumoniae* clinical isolates

Jasim, R., Han, M-L., Zhu, Y., Hu, X., Hussein, M. H., Lin, Y-W., Zhou, T. Q., Dong, C. Y. D., Li, J. & Velkov, T., 10 Aug 2018, In: International Journal of Molecular Sciences. 19, 8, 13 p., 2356.

Graphene-Enhanced 3D Chemical Mapping of Biological Specimens at Near-Atomic Resolution

Adineh, V. R., Zheng, C., Zhang, Q., Marceau, R. K. W., Liu, B., Chen, Y., Si, K. J., Weyland, M., Velkov, T., Cheng, W., Li, J. & Fu, J., 8 Aug 2018, In: Advanced Functional Materials. 28, 32, 9 p., 1801439.

Proteomic analysis of good-and poor-quality human sperm demonstrates that several proteins are routinely aberrantly regulated

Netherton, J. K., Hetherington, L., Ogle, R. A., Velkov, T. & Baker, M. A., Aug 2018, In: Biology of Reproduction. 99, 2, p. 395-408 14 p.

Correction to: Polymyxin B causes DNA damage in HK-2 cells and mice (Archives of Toxicology, (2018), 92, 7, (2259-2271), 10.1007/s00204-018-2192-1)

Yun, B., Zhang, T., Azad, M. A. K., Wang, J., Nowell, C. J., Kalitsis, P., Velkov, T., Hudson, D. F. & Li, J., 1 Jul 2018, In: Archives of Toxicology. 92, 7, p. 2273-2274 2 p.

Polymyxin B causes DNA damage in HK-2 cells and mice

Yun, B., Zhang, T., Azad, M. A. K., Wang, J., Nowell, C. J., Kalitsis, P., Velkov, T., Hudson, D. F. & Li, J., Jul 2018, In: Archives of Toxicology. 92, 7, p. 2259-2271 13 p.

Alterations of Metabolic and Lipid Profiles in Polymyxin-Resistant *Pseudomonas aeruginosa*

Han, M-L., Zhu, Y., Creek, D. J., Lin, Y-W., Anderson, D., Shen, H-H., Tsuji, B., Gutu, A. D., Moskowicz, S. M., Velkov, T. & Li, J., 1 Jun 2018, In: Antimicrobial Agents and Chemotherapy. 62, 6, 14 p., e02656-17.

Fitness cost of *mcr-1*-mediated polymyxin resistance in *Klebsiella pneumoniae*

Nang, S. C., Morris, F. C., McDonald, M. J., Han, M., Wang, J., Strugnell, R. A., Velkov, T. & Li, J., 1 Jun 2018, In: Journal of Antimicrobial Chemotherapy. 73, 6, p. 1604-1610 7 p.

Polymyxin b in combination with enrofloxacin exerts synergistic killing against extensively drug-resistant *Pseudomonas aeruginosa*

Lin, Y-W., Yu, H. H., Zhao, J., Han, M-L., Zhu, Y., Akter, J., Wickremasinghe, H., Walpola, H., Wirth, V., Rao, G. G., Forrest, A., Velkov, T. & Li, J., 1 Jun 2018, In: Antimicrobial Agents and Chemotherapy. 62, 6, 13 p., e00028-18.

Sputum Active Polymyxin Lipopeptides: Activity against Cystic Fibrosis *Pseudomonas aeruginosa* Isolates and Their Interactions with Sputum Biomolecules

Schneider-Futschik, E. K., Paulin, O. K. A., Hoyer, D., Roberts, K. D., Ziogas, J., Baker, M. A., Karas, J., Li, J. & Velkov, T., 11 May 2018, In: ACS Infectious Diseases. 4, 5, p. 646-655 10 p.

Efficacy of systemically administered polymyxins in mouse burn wound infection caused by multidrug-resistant Gram-negative pathogens: A proof-of-concept study

Lin, Y-W., Chen, K., Wang, J., Velkov, T., Zhou, Q. & Li, J., May 2018, In: Antimicrobial Agents and Chemotherapy. 62, 5, 5 p., e02527-17.

Structure, Function, and Biosynthetic Origin of Octapeptin Antibiotics Active against Extensively Drug-Resistant Gram-Negative Bacteria

Velkov, T., Gallardo-Godoy, A., Swarbrick, J. D., Blaskovich, M. A. T., Elliott, A. G., Han, M., Thompson, P. E., Roberts, K. D., Huang, J. X., Becker, B., Butler, M. S., Lash, L. H., Henriques, S. T., Nation, R. L., Sivanesan, S., Sani, M. A., Separovic, F., Mertens, H., Bulach, D., Seemann, T., & 3 others Owen, J., Li, J. & Cooper, M. A., 19 Apr 2018, In: Cell

Chemical Biology. 25, 4, p. 380-391 12 p.

Rapamycin Confers Neuroprotection against Colistin-Induced Oxidative Stress, Mitochondria Dysfunction, and Apoptosis through the Activation of Autophagy and mTOR/Akt/CREB Signaling Pathways

Dai, C., Ciccotosto, G. D., Cappai, R., Wang, Y., Tang, S., Hoyer, D., Schneider, E. K., Velkov, T. & Xiao, X., 18 Apr 2018, In: ACS Chemical Neuroscience. 9, 4, p. 824-837 14 p.

Synergistic killing of polymyxin B in combination with the antineoplastic drug mitotane against polymyxin-susceptible and -resistant *Acinetobacter baumannii*: A metabolomic study

Tran, T. B., Bergen, P. J., Creek, D. J., Velkov, T. & Li, J., 16 Apr 2018, In: Frontiers in Pharmacology. 9, 14 p., 359.

Novel polymyxin combination with antineoplastic mitotane improved the bacterial killing against polymyxin-resistant multidrug-resistant gram-negative pathogens

Tran, T. B., Wang, J., Doi, Y., Velkov, T., Bergen, P. J. & Li, J., 12 Apr 2018, In: Frontiers in Microbiology. 9, 11 p., 721.

Comparative analysis of phosphoethanolamine transferases involved in polymyxin resistance across 10 clinically relevant Gram-negative bacteria

Huang, J., Zhu, Y., Han, M., Li, M., Song, J., Velkov, T., Li, C. & Li, J., 1 Apr 2018, In: International Journal of Antimicrobial Agents. 51, 4, p. 586-593 8 p.

Genome-scale metabolic modeling of responses to polymyxins in *Pseudomonas aeruginosa*

Zhu, Y., Czauderna, T., Zhao, J., Klapperstueck, M., Mahamad Maifiah, M. H. B., Han, M-L., Lu, J., Sommer, B., Velkov, T., Lithgow, T., Song, J., Schreiber, F. & Li, J., 1 Apr 2018, In: GigaScience. 7, 4, 18 p., giy021.

T-2 toxin-induced toxicity in neuroblastoma-2a cells involves the generation of reactive oxygen, mitochondrial dysfunction and inhibition of Nrf2/HO-1 pathway

Zhang, X., Wang, Y., Velkov, T., Tang, S. & Dai, C., Apr 2018, In: Food and Chemical Toxicology. 114, p. 88-97 10 p.

The inhibitory effects of eighteen front-line antibiotics on the substrate uptake mediated by human Organic anion/cation transporters, Organic anion transporting polypeptides and Oligopeptide transporters in in vitro models

Lu, X., Chan, T., Zhu, L., Bao, X., Velkov, T., Zhou, Q. T., Li, J., Chan, H. K. & Zhou, F., 30 Mar 2018, In: European Journal of Pharmaceutical Sciences. 115, p. 132-143 12 p.

Broad activity of diphenyleiiodonium analogues against *Mycobacterium tuberculosis*, malaria parasites and bacterial pathogens

Nguyen, N., Wilson, D. W., Nagalingam, G., Triccas, J. A., Schneider, E. K., Li, J., Velkov, T. & Baell, J., 25 Mar 2018, In: European Journal of Medicinal Chemistry. 148, p. 507-518 12 p.

Polymyxin-Induced Lipid A Deacylation in *Pseudomonas aeruginosa* Perturbs Polymyxin Penetration and Confers High-Level Resistance

Han, M-L., Velkov, T., Zhu, Y., Roberts, K. D., Le Brun, A. P., Chow, S. H., Gutu, A. D., Moskowitz, S. M., Shen, H-H. & Li, J., 19 Jan 2018, In: ACS Chemical Biology. 13, 1, p. 121-130 10 p.

Mechanistic Insights From Global Metabolomics Studies into Synergistic Bactericidal Effect of a Polymyxin B Combination With Tamoxifen Against Cystic Fibrosis MDR *Pseudomonas aeruginosa*

Hussein, M., Han, M-L., Zhu, Y., Schneider-Futschik, E. K., Hu, X., Zhou, Q. T., Lin, Y-W., Anderson, D., Creek, D. J., Hoyer, D., Li, J. & Velkov, T., 1 Jan 2018, In: Computational and Structural Biotechnology Journal. 16, p. 587-599 13 p.

Methionine ameliorates polymyxin-induced nephrotoxicity by attenuating cellular oxidative stress

Azad, M. A. K., Sivanesan, S., Wang, J., Chen, K., Nation, R. L., Thompson, P. E., Roberts, K. D., Velkov, T. & Li, J., 1 Jan 2018, In: Antimicrobial Agents and Chemotherapy. 62, 1, 9 p., e01254.

The potentially beneficial central nervous system activity profile of ivacaftor and its metabolites

Schneider, E. K., McQuade, R. M., Carbone, V. C., Ortega, F. R., Wilson, J. W., Button, B., Saito, A., Poole, D. P., Hoyer, D., Li, J. & Velkov, T., 1 Jan 2018, In: ERJ Open Research. 4, 1, 10 p., 127.

Polymyxins for CNS infections: Pharmacology and neurotoxicity

Velkov, T., Dai, C., Ciccotosto, G. D., Cappai, R., Hoyer, D. & Li, J., Jan 2018, In: *Pharmacology & Therapeutics*. 181, p. 85-90 6 p.

A Comparative Study of Outer Membrane Proteome between Paired Colistin-Susceptible and Extremely Colistin-Resistant *Klebsiella pneumoniae* Strains

Jasim, R., Baker, M. A., Zhu, Y., Han, M., Schneider-Futschik, E. K., Hussein, M., Hoyer, D., Li, J. & Velkov, T., 2018, In: *ACS Infectious Diseases*. 4, 12, p. 1692-1704 13 p.

Chloroquine ameliorates carbon tetrachloride-induced acute liver injury in mice via the concomitant inhibition of inflammation and induction of apoptosis

Dai, C., Xiao, X., Li, D., Tun, S., Wang, Y., Velkov, T. & Tang, S., 2018, In: *Cell Death & Disease*. 9, 12, 13 p., 1164.

Curcumin Attenuates Colistin-Induced Neurotoxicity in N2a Cells via Anti-inflammatory Activity, Suppression of Oxidative Stress, and Apoptosis

Dai, C., Ciccotosto, G. D., Cappai, R., Tang, S., Li, D., Xie, S., Xiao, X. & Velkov, T., 2018, In: *Molecular Neurobiology*. 55, 1, p. 421-434 14 p.

A portrait of the sialyl glycan receptor specificity of the H10 influenza virus hemagglutinin—a picture of an avian virus on the verge of becoming a pandemic?

Schneider, E. K., Li, J. & Velkov, T., 13 Dec 2017, In: *Vaccines*. 5, 4, 15 p., 51.

Aminoglycoside concentrations required for synergy with carbapenems against *Pseudomonas aeruginosa* determined via mechanistic studies and modeling

Yadav, R., Bulitta, J. B., Schneider, E. K., Shin, B. S., Velkov, T., Nation, R. L. & Landersdorfer, C. B., 1 Dec 2017, In: *Antimicrobial Agents and Chemotherapy*. 61, 12, 16 p., e00722.

Gelofusine ameliorates colistin-induced nephrotoxicity

Sivanesan, S. S., Azad, M. A. K., Schneider, E. K., Ahmed, M. U., Huang, J., Wang, J., Li, J., Nation, R. L. & Velkov, T., 1 Dec 2017, In: *Antimicrobial Agents and Chemotherapy*. 61, 12, 7 p., e00985.

Design and evaluation of novel polymyxin fluorescent probes

Yun, B., Roberts, K. D., Thompson, P. E., Nation, R. L., Velkov, T. & Li, J., 11 Nov 2017, In: *Sensors*. 17, 11, 8 p., 2598.

Optimized HPLC-MS method for the high-throughput analysis of clinical samples of ivacaftor, its major metabolites, and lumacaftor in biological fluids of cystic fibrosis patients

Schneider, E. K., Reyes-Ortega, F., Li, J. & Velkov, T., 15 Oct 2017, In: *Journal of Visualized Experiments*. 2017, 128, e56084.

Pulsed-voltage atom probe tomography of low conductivity and insulator materials by application of ultrathin metallic coating on nanoscale specimen geometry

Adineh, V. R., Marceau, R. K. W., Chen, Y., Si, K. J., Velkov, T., Cheng, W., Li, J. & Fu, J., 1 Oct 2017, In: *Ultramicroscopy*. 181, p. 150-159 10 p.

Baicalein acts as a nephroprotectant that ameliorates colistin-induced nephrotoxicity by activating the antioxidant defence mechanism of the kidneys and down-regulating the inflammatory response

Dai, C., Tang, S., Wang, Y., Velkov, T. & Xiao, X., Sept 2017, In: *Journal of Antimicrobial Chemotherapy*. 72, 9, p. 2562-2569 8 p.

Investigating the Interaction of Octapeptin A3 with Model Bacterial Membranes

Han, M. L., Shen, H. H., Hansford, K. A., Schneider, E. K., Sivanesan, S., Roberts, K. D., Thompson, P. E., Le Brun, A. P., Zhu, Y., Sani, M-A., Separovic, F., Blaskovich, M. A. T., Baker, M. A., Moskowitz, S. M., Cooper, M. A., Li, J. & Velkov, T., 11 Aug 2017, In: *ACS Infectious Diseases*. 3, 8, p. 606-619 14 p.

Hydrolyzable Poly[Poly(Ethylene Glycol) Methyl Ether Acrylate]-Colistin Prodrugs through Copper-Mediated Photoinduced Living Radical Polymerization

Zhu, C., Schneider, E. K., Nikolaou, V., Klein, T., Li, J., Davis, T. P., Whittaker, M. R., Wilson, P., Kempe, K., Velkov, T. & Haddleton, D. M., 19 Jul 2017, In: *Bioconjugate Chemistry*. 28, 7, p. 1916-1924 9 p.

From Breast Cancer to Antimicrobial: Combating Extremely Resistant Gram-Negative "superbugs" Using Novel Combinations of Polymyxin B with Selective Estrogen Receptor Modulators

Hussein, M. H., Schneider, E. K., Elliott, A. G., Han, M., Reyes-Ortega, F., Morris, F., Blastovich, M. A. T., Jasim, R., Currie, B. J., Mayo, M., Baker, M., Cooper, M. A., Li, J. & Velkov, T., 1 Jul 2017, In: *Microbial Drug Resistance*. 23, 5, p. 640-650 11 p.

Potential toxicity of polymyxins in human lung epithelial cells

Ahmed, M. U., Velkov, T., Lin, Y-W., Yun, B., Nowell, C. J., Zhou, F., Zhou, Q. T., Chan, K., Azad, M. A. K. & Li, J., 1 Jun 2017, In: *Antimicrobial Agents and Chemotherapy*. 61, 6, 12 p., e02690-16.

Characterization of the Polymyxin D Synthetase Biosynthetic Cluster and Product Profile of *Paenibacillus polymyxa* ATCC 10401

Galea, C. A., Han, M., Zhu, Y., Roberts, K., Wang, J., Thompson, P. E., Li, J. & Velkov, T., 26 May 2017, In: *Journal of Natural Products*. 80, 5, p. 1264-1274 11 p.

A fresh shine on cystic fibrosis inhalation therapy: Antimicrobial synergy of polymyxin B in combination with silver nanoparticles

Jasim, R., Schneider, E. K., Han, M., Azad, M. A. K., Hussein, M., Nowell, C., Baker, M. A., Wang, J., Li, J. & Velkov, T., 1 Apr 2017, In: *Journal of Biomedical Nanotechnology*. 13, 4, p. 447-457 11 p.

Pharmacokinetics and relative bioavailability of an oral amoxicillin-apramycin combination in pigs

Dai, C., Zhao, T., Yang, X., Xiao, X., Velkov, T. & Tang, S., 1 Apr 2017, In: *PLoS ONE*. 12, 4, 12 p., e0176149.

Untargeted metabolomics analysis reveals key pathways responsible for the synergistic killing of colistin and doripenem combination against *Acinetobacter baumannii*

Mahamad Maifiah, M. H., Creek, D. J., Nation, R. L., Forrest, A., Tsuji, B. T., Velkov, T. & Li, J., 30 Mar 2017, In: *Scientific Reports*. 7, 12 p., 45527.

Antibiotic-non-antibiotic combinations for combating extremely drug-resistant Gram-negative 'superbugs'

Schneider, E. K., Reyes Ortega, F., Velkov, T. & Li, J., 3 Mar 2017, In: *Essays in Biochemistry*. 61, 1, p. 115-125 11 p.

Rediscovering the octapeptins

Velkov, T., Roberts, K. D. & Li, J., 1 Mar 2017, In: *Natural Product Reports*. 34, 3, p. 295-309 15 p.

Plasma Protein Binding Structure-Activity Relationships Related to the N-Terminus of Daptomycin

Schneider, E. K., Huang, J. X., Carbone, V., Han, M., Zhu, Y., Nang, S., Khoo, K. K., Mak, J., Cooper, M. A., Li, J. & Velkov, T., 1 Feb 2017, In: *ACS Infectious Diseases*. 3, 3, p. 249-258 10 p.

The thermodynamics of Pr55^{Gag}-RNA interaction regulate the assembly of HIV

Tanwar, H. S., Khoo, K., Garvey, M., Waddington, L., Leis, A., Hijnen, M., Velkov, T., Dumsday, G. J., McKinstry, W. J. & Mak, J., 1 Feb 2017, In: *PLoS Pathogens*. 13, 2, 24 p., e1006221.

Functional characterization of the unique terminal thioesterase domain from polymyxin synthetase

Galea, C., Roberts, K. D., Zhu, Y., Thompson, P. E., Li, J. & Velkov, T., 31 Jan 2017, In: *Biochemistry*. 56, 4, p. 657-668 12 p.

Pharmacokinetics of the individual major components of polymyxin B and colistin in rats

Sivanesan, S., Roberts, K., Wang, J., Cheah, S-E., Thompson, P. E., Li, J., Nation, R. & Velkov, T., 27 Jan 2017, In: *Journal of Natural Products*. 80, 1, p. 225-229 5 p.

Can cystic fibrosis patients finally catch a breath with lumacaftor/ivacaftor?

Schneider, E. K., Reyes-Ortega, F., Li, J. & Velkov, T., 1 Jan 2017, In: *Clinical Pharmacology & Therapeutics*. 101, 1, p. 130-141 12 p.

A hydrogel-based localized release of colistin for antimicrobial treatment of burn wound infection

Zhu, C., Zhao, J., Kempe, K., Wilson, P., Wang, J., Velkov, T., Li, J., Davis, T. P., Whittaker, M. R. & Haddleton, D. M., 2017, In: *Macromolecular Bioscience*. 17, 2, 7 p., 1600320.

A traceless reversible polymeric colistin prodrug to combat multidrug-resistant (MDR) gram-negative bacteria

Zhu, C., Schneider, E. K., Wang, J., Kempe, K., Wilson, P., Velkov, T., Li, J., Davis, T., Whittaker, M. R. & Haddleton, D. M., 2017, In: *Journal of Controlled Release*. 259, 9 p.

Cationic acrylate oligomers comprising amino acid mimic moieties demonstrate improved antibacterial killing efficiency

Grace, J., Elliott, A. G., Huang, J. X., Schneider, E. K., Truong Phuoc, N., Cooper, M. A., Li, J., Davis, T., Quinn, J., Velkov, T. & Whittaker, M. R., 2017, In: *Journal of Materials Chemistry B*. 5, 3, p. 531-536 6 p.

Minocycline attenuates colistin-induced neurotoxicity via suppression of apoptosis, mitochondrial dysfunction and oxidative stress

Dai, C., Ciccotosto, G. D., Cappai, R., Wang, Y., Tang, S., Xiao, X. & Velkov, T., 2017, In: *Journal of Antimicrobial Chemotherapy*. 72, 6, p. 1635-1645 11 p., dx037.

Novel Antimicrobial Peptides: Targeting Wound Infections Caused by 'Superbugs' Resistant to All Current Antibiotics

Velkov, T., Zhu, C., Haddleton, D. & Li, J., 2017, *Recent Clinical Techniques, Results, and Research in Wounds*. Shiffman, M. A. & Low, M. (eds.). Cham Switzerland: Springer, p. 203-211 9 p.

The first total synthesis and solution structure of a polypeptin, PE2, a cyclic lipopeptide with broad spectrum antibiotic activity

Mouniford, S. J., Mohanty, B., Roberts, K. D., Yu, H. H., Scanlon, M. J., Nation, R. L., Velkov, T., Li, J. & Thompson, P. E., 2017, In: *Organic & Biomolecular Chemistry*. 15, 34, p. 7173-7180 8 p.

The plasma protein binding proteome of ertapenem: a novel compound-centric proteomic approach for elucidating drug-plasma protein binding interactions

Baker, M. A., Schneider, E. K., X. Huang, J., Cooper, M. A., Li, J. & Velkov, T., 16 Dec 2016, In: *ACS Chemical Biology*. 11, 12, p. 3353-3364 12 p.

Deficiency in outer dense fiber 1 is a marker and potential driver of idiopathic male infertility

Hetherington, L., Schneider, E. K., Scott, C., DeKretser, D., Muller, C. H., Hondermarck, H., Velkov, T. & Baker, M. A., 1 Dec 2016, In: *Molecular & Cellular Proteomics*. 15, 12, p. 3685-3693 9 p.

Development of HPLC and LC-MS/MS methods for the analysis of ivacaftor, its major metabolites and lumacaftor in plasma and sputum of cystic fibrosis patients treated with ORKAMBI or KALYDECO

Schneider, E. K., Reyes Ortega, F., Wilson, J. W., Kotsimbos, T., Keating, D., Li, J. & Velkov, T., 1 Dec 2016, In: *Journal of Chromatography B*. 1038, p. 57-62 6 p.

Pharmacokinetics/pharmacodynamics of colistin and polymyxin B: are we there yet?

Tran, T. B., Velkov, T., Nation, R. L., Forrest, A., Tsuji, B. T., Bergen, P. J. & Li, J., 1 Dec 2016, In: *International Journal of Antimicrobial Agents*. 48, 6, p. 592-597 6 p.

Near-atomic three-dimensional mapping for site-specific chemistry of 'superbugs'

Adineh, V. R., Marceau, R. K. W., Velkov, T., Li, J. & Fu, J., 9 Nov 2016, In: *Nano Letters*. 16, 11, p. 7113-7120 8 p.

Colistin-induced apoptosis of neuroblastoma-2a cells involves the generation of reactive oxygen species, mitochondrial dysfunction, and autophagy

Dai, C., Tang, S., Velkov, T. & Xiao, X., 1 Sept 2016, In: *Molecular Neurobiology*. 53, 7, p. 4685-4700 16 p.

An "unlikely" pair: the antimicrobial synergy of polymyxin B in combination with the cystic fibrosis transmembrane conductance regulator drugs KALYDECO and ORKAMBI

Schneider, E. K., Azad, M. A. K., Han, M.-L., Zhou, Q., Wang, J., Huang, J. X., Cooper, M. A., Doi, Y., Baker, M. A., Bergen, P. J., Li, J. & Velkov, T., 8 Jul 2016, In: ACS Infectious Diseases. 2, 7, p. 478-488 11 p.

Anthelmintic closantel enhances bacterial killing of polymyxin B against multidrug-resistant *Acinetobacter baumannii*

Tran, T. B., Cheah, S-E., Yu, H. H., Bergen, P. J., Nation, R. L., Creek, D. J., Purcell, A., Forrest, A., Doi, Y., Song, J., Velkov, T. & Li, J., 1 Jun 2016, In: Journal of Antibiotics. 69, 6, p. 415-421 7 p.

Pharmacokinetics of levobupivacaine following infant spinal anesthesia

Frawley, G., Hallett, B., Velkov, T. & Bjorksten, A., 1 Jun 2016, In: Pediatric Anesthesia. 26, 6, p. 575-581 7 p.

Polymyxins: a new hope in combating Gram-negative superbugs?

Velkov, T., Roberts, K. D., Thompson, P. E. & Li, J., Jun 2016, In: Future Medicinal Chemistry. 8, 10, p. 1017-1025 9 p.

Global metabolic analyses identify key differences in metabolite levels between polymyxin-susceptible and polymyxin-resistant *Acinetobacter baumannii*

Maifiah, M. H. M., Cheah, S-E., Johnson, M. D., Han, M., Boyce, J. D., Thamlikitkul, V., Forrest, A., Kaye, K. S., Hertzog, P., Purcell, A. W., Song, J., Velkov, T., Creek, D. J. & Li, J., 29 Feb 2016, In: Scientific Reports. 6, 17 p., 22287.

A novel chemical biology approach for mapping of polymyxin lipopeptide antibody binding epitopes

Velkov, T., Yun, B., Schneider, E. K., Azad, M. A. K., Dolezal, O., Morris, F. C., Nation, R. L., Wang, J., Chen, K., Yu, H., Wang, L., Thompson, P. E., Roberts, K. D. & Li, J., 2016, In: ACS Infectious Diseases. 2, 5, p. 341-351 11 p.

Antibacterial low molecular weight cationic polymers: Dissecting the contribution of hydrophobicity, chain length and charge to activity

Grace, J. L., Huang, J. X., Cheah, S-E., Truong Phuoc, N., Cooper, M. A., Li, J., Davis, T. P., Quinn, J. F., Velkov, T. & Whittaker, M. R., 2016, In: RSC Advances. 6, 19, p. 15469-15477 9 p.

Quantitation of polymyxin-lipopolysaccharide interactions using an image-based fluorescent probe

McInerney, M. P., Roberts, K. D., Thompson, P. E., Li, J., Nation, R. L., Velkov, T. & Nicolazzo, J. A., 2016, In: Journal of Pharmaceutical Sciences. 105, 2, p. 1006-1010 5 p.

Transcriptomic analysis of the activity of a novel polymyxin against *Staphylococcus aureus*

Zhao, J., Cheah, S-E., Roberts, K. D., Nation, R. L., Thompson, P. E., Velkov, T., Du, Z., Johnson, M. D. & Li, J., 2016, In: mSphere. 1, 4, 13 p., e00119-16.

Analysis of protein thiol changes occurring during rat sperm epididymal maturation

Baker, M. A., Weinberg, A., Hetherington, L., Villaverde, A-I. S. B. & Velkov, T., 2015, In: Biology of Reproduction. 92, 1, p. 1-10 10 p., 11.

Antimicrobial activity and toxicity of the major lipopeptide components of polymyxin B and colistin: last-line antibiotics against multidrug-resistant gram-negative bacteria

Roberts, K. D., Azad, M. A. K., Wang, J., Horne, A. S., Thompson, P. E., Nation, R. L., Velkov, T. & Li, J., 2015, In: ACS Infectious Diseases. 1, 11, p. 568-575 8 p.

Cellular uptake and localization of polymyxins in renal tubular cells using rationally designed fluorescent probes

Yun, B., Azad, M. A. K., Nowell, C. J., Nation, R. L., Thompson, P. E., Roberts, K. D., Velkov, T. & Li, J., 2015, In: Antimicrobial Agents and Chemotherapy. 59, 12, p. 7489-7496 8 p.

Cold adaptation generates mutations associated with the growth of influenza B vaccine viruses

Kim, H., Velkov, T., Camuglia, S., Rockman, S. & Tannock, G. A., 2015, In: Vaccine. 33, 43, p. 5786-5793 8 p.

Defining the mechanisms by which the reactive oxygen species by-product, 4-hydroxynonenal, affects human sperm cell function

Baker, M. A., Weinberg, A. S., Hetherington, L., Villaverde, A-I., Velkov, T., Baell, J. B. & Gordon, C. P., 2015, In: *Biology of Reproduction*. 92, 4, p. 1 - 10 10 p.

Drug-drug plasma protein binding interactions of ivacaftor

Schneider, E. K., Huang, J. X., Carbone, V., Baker, M. A., Azad, M. A. K., Cooper, M. A., Li, J. & Velkov, T., 2015, In: *Journal of Molecular Recognition*. 28, 6, p. 339 - 348 10 p.

Fatty acid-binding proteins 1 and 2 differentially modulate the activation of peroxisome proliferator-activated receptor alpha in a ligand-selective manner

Hughes, M. L. R., Liu, B., Halls, M. L., Wagstaff, K. M., Patil, R., Velkov, T., Jans, D. A., Bunnett, N. W., Scanlon, M. & Porter, C. J., 2015, In: *Journal of Biological Chemistry*. 290, 22, p. 13895 - 13906 12 p.

Imaging the distribution of polymyxins in the kidney

Yun, B., Azad, M. A. K., Wang, J., Nation, R. L., Thompson, P., Roberts, K. D., Velkov, T. & Li, J., 2015, In: *Journal of Antimicrobial Chemotherapy*. 70, 3, p. 827 - 829 3 p.

Inhaled anti-infective chemotherapy for respiratory tract infections: successes, challenges and the road ahead

Velkov, T., Abdul Rahim, N., Zhou, Q. T., Chan, H-K. & Li, J., 2015, In: *Advanced Drug Delivery Reviews*. 85, p. 65 - 82 18 p.

Lycopene attenuates colistin-induced nephrotoxicity in mice via activation of the Nrf2/HO-1 pathway

Dai, C., Tang, S., Deng, S., Zhang, S., Zhou, Y., Velkov, T., Li, J. & Xiao, X., 2015, In: *Antimicrobial Agents and Chemotherapy*. 59, 1, p. 579 - 585 7 p.

Major pathways of polymyxin-induced apoptosis in rat kidney proximal tubular cells

Azad, M. A. K., Akter, J., Rogers, K. L., Nation, R. L., Velkov, T. & Li, J., 2015, In: *Antimicrobial Agents and Chemotherapy*. 59, 4, p. 2136 - 2143 8 p.

Methotrexate-conjugated PEGylated dendrimers show differential patterns of deposition and activity in tumor-burdened lymph nodes after intravenous and subcutaneous administration in rats

Kaminskas, L. M., McLeod, V. M., Ascher, D. B., Ryan, G., Jones, S. A., Haynes, J. M., Trevaskis, N., Chan, L. J., Sloan, E. K., Finnin, B. A. L., Williamson, M. M., Velkov, T., Williams, E. D., Kelly, B., Owen, D. J. & Porter, C. J., 2015, In: *Molecular Pharmaceutics*. 12, 2, p. 432 - 443 12 p.

Molecular characterisation of the haemagglutinin glycan-binding specificity of egg-adapted vaccine strains of the pandemic 2009 H1N1 swine influenza A virus

Carbone, V., Schneider, E. K., Rockman, S., Baker, M., Huang, J. X., Ong, C., Cooper, M. A., Yuriev, E., Li, J. & Velkov, T., 2015, In: *Molecules*. 20, 6, p. 10415-10434 20 p.

Significant accumulation of polymyxin in single renal tubular cells: a medicinal chemistry and triple correlative microscopy approach

Azad, M. A. K., Roberts, K. D., Yu, H., Liu, B., Schofield, A. V., James, S. A., Howard, D. L., Nation, R. L., Rogers, K. L., de Jonge, M. D., Thompson, P., Fu, J., Velkov, T. & Li, J., 2015, In: *Analytical Chemistry*. 87, 3, p. 1590 - 1595 6 p.

Synergistic killing of NDM-producing MDR *Klebsiella pneumoniae* by two 'old' antibiotics-polymyxin B and chloramphenicol

Abdul Rahim, N., Cheah, S-E., Johnson, M. D., Yu, H., Sidjabat, H. E., Boyce, J., Butler, M. S., Cooper, M. A., Fu, J., Paterson, D. L., Nation, R. L., Bergen, P. J., Velkov, T. & Li, J., 2015, In: *Journal of Antimicrobial Chemotherapy*. 70, 9, p. 2589-2597 9 p.

The carbohydrate-binding promiscuity of *Euonymus europaeus* lectin is predicted to involve a single binding site

Agostino, M. J., Velkov, T., Dingjan, T., Williams, S. J., Yuriev, E. & Ramsland, P. A., 2015, In: *Glycobiology*. 25, 1, p. 101 - 114 14 p.

Two mechanisms of killing of *Pseudomonas aeruginosa* by tobramycin assessed at multiple inocula via mechanism-based modeling

Bulitta, J. B., Ly, N. S., Landersdorfer, C. B., Wanigaratne, N. A., Velkov, T., Yadav, R., Oliver, A., Martin, L. L., Shin, B. S., Forrest, A. & Tsuji, B., 2015, In: *Antimicrobial Agents and Chemotherapy*. 59, 4, p. 2315 - 2327 13 p.

Measuring polymyxin uptake by renal tubular cells: Is bodipy-polymyxin B an appropriate probe?

Azad, M. A. K., Yun, B., Roberts, K. D., Nation, R. L., Thompson, P., Velkov, T. & Li, J., 1 Oct 2014, In: *Antimicrobial Agents and Chemotherapy*. 58, 10, p. 6337-6338 2 p.

A secondary mode of action of polymyxins against Gram-negative bacteria involves the inhibition of NADH-quinone oxidoreductase activity

Deris, Z. Z., Akter, J., Sivanesan, S., Roberts, K. D., Thompson, P., Nation, R. L., Li, J. & Velkov, T., 2014, In: *Journal of Antibiotics*. 67, 2, p. 147 - 151 5 p.

Colistin and polymyxin B: Peas in a pod, or chalk and cheese?

Nation, R. L., Velkov, T. & Li, J., 2014, In: *Clinical Infectious Diseases*. 59, 1, p. 88 - 94 7 p.

Cyclosporines: Biosynthesis and Beyond

Velkov, T. & Lawen, A., 2014, *Biosynthesis and Molecular Genetics of Fungal Secondary Metabolites*. Martin, J-F., García-Estrada, C. & Zeilinger, S. (eds.). 2nd ed. New York NY USA: Springer, p. 65-88 24 p. (Fungal Biology).

In situ probing the interior of single bacterial cells at nanometer scale

Liu, B., Uddin, M. H., Ng, T. W., Paterson, D. L., Velkov, T., Li, J. & Fu, J., 2014, In: *Nanotechnology*. 25, 41, p. 1 - 13 13 p.

Nanoscale focused ion beam tomography of single bacterial cells for assessment of antibiotic effects

Liu, B., Yu, H., Ng, T. W., Paterson, D. L., Velkov, T., Li, J. & Fu, J., 2014, In: *Microscopy and Microanalysis*. 20, 2, p. 537 - 547 11 p.

Phosphopeptide analysis of rodent epididymal spermatozoa

Baker, M. A., Hetherington, L., Weinberg, A. S. & Velkov, T., 2014, In: *Journal of Visualized Experiments*. 94, e51546, p. 1 - 7 7 p.

Probing the penetration of antimicrobial polymyxin lipopeptides into gram-negative bacteria

Deris, Z. Z., Swarbrick, J. D., Roberts, K. D., Azad, M. A. K., Akter, J., Horne, A. S., Nation, R. L., Rogers, K. L., Thompson, P., Velkov, T. & Li, J., 2014, In: *Bioconjugate Chemistry*. 25, 4, p. 750 - 760 11 p.

Surface changes and polymyxin interactions with a resistant strain of *Klebsiella pneumoniae*

Velkov, T., Deris, Z. Z., Huang, J. X., Azad, M. A. K., Butler, M., Sivanesan, S., Kaminskas, L. M., Dong, Y. D. C., Boyd, B. J., Baker, M. A., Cooper, M. A., Nation, R. L. & Li, J., 2014, In: *Innate Immunity*. 20, 4, p. 350 - 363 14 p.

Teaching 'old' polymyxins new tricks: New-generation lipopeptides targeting gram-negative 'superbugs'

Velkov, T., Roberts, K. D., Nation, R. L., Wang, J., Thompson, P. & Li, J., 2014, In: *ACS Chemical Biology*. 9, 5, p. 1172 - 1177 6 p.

The RNA-dependent-RNA polymerase, an emerging antiviral drug target for the hendra virus

Velkov, T., Carbone, V., Akter, J., Sivanesan, S., Li, J., Beddoe, T. C. & Marsh, G. A., 2014, In: *Current Drug Targets*. 15, 1, p. 103 - 113 11 p.

Head and flagella subcompartmental proteomic analysis of human spermatozoa

Baker, M. A., Naumovski, N., Hetherington, L., Weinberg, A. S., Velkov, T. & Aitken, R. J., 2013, In: *Proteomics*. 13, 1, p. 61 - 74 14 p.

Interaction of phthalates and phenoxy acid herbicide environmental pollutants with intestinal intracellular lipid binding proteins

Carbone, V. & Velkov, T., 2013, In: *Chemical Research in Toxicology*. 26, 8, p. 1240 - 1250 11 p.

Interactions between human liver fatty acid binding protein and peroxisome proliferator activated receptor selective drugs

Velkov, T., 2013, In: *PPAR Research*. 2013, 14 p., 938401.

Molecular basis for the increased polymyxin susceptibility of *Klebsiella pneumoniae* strains with under-acylated lipid A

Velkov, T., Soon, R. L-X., Huang, J. X., Cooper, M. A., Azad, M. A. K., Baker, M. A., Thompson, P., Roberts, K. D., Nation, R. L., Clements, A., Strugnell, R. A. & Li, J., 2013, In: *Innate Immunity*. 19, 3, p. 265 - 277 13 p.

Molecular characterization of the receptor binding structure-activity relationships of influenza B virus hemagglutinin

Carbone, V., Kim, H., Huang, J. X., Baker, M. A., Ong, C., Cooper, M. A., Li, J., Rockman, S. & Velkov, T., 2013, In: *Acta Virologica*. 57, 3, p. 313 - 332 20 p.

PK/PD models in antibacterial development

Velkov, T., Bergen, P. J., Lora-Tamayo, J., Landersdorfer, C. B. & Li, J., 2013, In: *Current Opinion in Microbiology*. 16, 5, p. 573 - 579 7 p.

Pharmacokinetics of four different brands of colistimethate and formed colistin in rats

He, H., Li, J. C., Nation, R. L., Jacob, J., Chen, G., Lee, H. J., Tsuji, B., Thompson, P., Roberts, K. D., Velkov, T. & Li, J., 2013, In: *Journal of Antimicrobial Chemotherapy*. 68, 10, p. 2311 - 2317 7 p.

Pharmacology of polymyxins: New insights into an 'old' class of antibiotics

Velkov, T., Roberts, K. D., Nation, R. L., Thompson, P. & Li, J., 2013, In: *Future Microbiology*. 8, 6, p. 711 - 724 14 p.

Polymyxin B induces apoptosis in kidney proximal tubular cells

Azad, M. A. K., Finnin, B. A. L., Poudyal, A., Davis, K. E., Li, J., Hill, P. A., Nation, R. L., Velkov, T. & Li, J., 2013, In: *Antimicrobial Agents and Chemotherapy*. 57, 9, p. 4329 - 4335 7 p.

Polymyxins and analogues bind to ribosomal RNA and interfere with eukaryotic translation in vitro

McCoy, L. S., Roberts, K. D., Nation, R. L., Thompson, P., Velkov, T., Li, J. & Tor, Y., 2013, In: *ChemBioChem*. 14, 16, p. 2083 - 2086 4 p.

Post-ejaculatory changes in the metabolic status of rat spermatozoa as measured by GC-MS

Baker, M. A., Weinberg, A. S., Hetherington, L., Velkov, T. & Aitken, R. J., 2013, In: *Metabolomics*. 9, 3, p. 708 - 721 14 p.

Reverse engineering the antigenic architecture of the haemagglutinin from influenza H5N1 clade 1 and 2.2 viruses with fine epitope mapping using monoclonal antibodies

Rockman, S., Camuglia, S., Vandenberg, K., Ong, C., Baker, M. A., Nation, R. L., Li, J. & Velkov, T., 2013, In: *Molecular Immunology*. 53, 4, p. 435 - 442 8 p.

The antigenic architecture of the hemagglutinin of influenza H5N1 viruses

Velkov, T., Ong, C., Baker, M. A., Kim, H., Li, J., Nation, R. L., Huang, J. X., Cooper, M. A. & Rockman, S., 2013, In: *Molecular Immunology*. 56, 4, p. 705 - 719 15 p.

The specificity of the influenza B virus hemagglutinin receptor binding pocket: what does it bind to?

Velkov, T., 2013, In: *Journal of Molecular Recognition*. 26, 10, p. 439 - 449 11 p.

Analysis of phosphopeptide changes as spermatozoa acquire functional competence in the epididymis demonstrates changes in the post-translational modification of izumo1

Baker, M. A., Hetherington, L., Weinberg, A. S., Naumovski, N., Velkov, T., Pelzing, M., Dolman, S., Condina, M. R. & Aitken, R. J., 2012, In: *Journal of Proteome Research*. 11, 11, p. 5252 - 5264 13 p.

Drug-binding energetics of human α -1-acid glycoprotein assessed by isothermal titration calorimetry and molecular docking simulations

Huang, J. X., Cooper, M. A., Baker, M. A., Azad, M. A. K., Nation, R. L., Li, J. & Velkov, T., 2012, In: Journal of Molecular Recognition. 25, 12, p. 642 - 656 15 p.

Molecular characterization of lipopolysaccharide binding to human α -1-acid glycoprotein

Huang, J. X., Azad, M. A. K., Yuriev, E., Baker, M. A., Nation, R. L., Li, J., Cooper, M. A. & Velkov, T., 2012, In: Journal of Lipids. 2012, p. 1 - 15 15 p.

Structure-activity relationships for the binding of polymyxins with human α -1-acid glycoprotein

Azad, M. A. K., Huang, J. X., Cooper, M. A., Roberts, K. D., Thompson, P., Nation, R. L., Li, J. & Velkov, T., 2012, In: Biochemical Pharmacology. 84, 3, p. 278 - 291 14 p.

The combination of colistin and doripenem is synergistic against *Klebsiella pneumoniae* at multiple inocula and suppresses colistin resistance in an in vitro pharmacokinetic/pharmacodynamic model

Deris, Z. Z., Yu, H., Davis, K. E., Soon, R. L-X., Jacob, J., Ku, K. U. C., Poudyal, A., Bergen, P. J., Tsuji, B., Bulitta, J. B., Forrest, A., Paterson, D. L., Velkov, T., Li, J. & Nation, R. L., 2012, In: Antimicrobial Agents and Chemotherapy. 56, 10, p. 5103 - 5112 10 p.

A gel-capture assay for characterizing the sialyl-glycan selectivity of influenza viruses

Velkov, T., Thompson, P., El-Kabbani, O., Lindh, F., Stambas, J. & Rockman, S., 2011, In: Acta Virologica. 55, 2, p. 131 - 137 7 p.

Characterization of the N-methyltransferase activities of the multifunctional polypeptide cyclosporin synthetase

Velkov, T., Horne, J., Scanlon, M., Capuano, B., Yuriev, E. & Lawen, A., 2011, In: Chemistry and Biology. 18, 4, p. 464 - 475 12 p.

Design, synthesis, and evaluation of a new fluorescent probe for measuring polymyxin-lipopolysaccharide binding interactions

Soon, R., Velkov, T., Chiu, F., Thompson, P., Kancharla, R., Roberts, K., Larson, I., Nation, R. & Li, J., 2011, In: Analytical Biochemistry. 409, 2, p. 273 - 283 11 p.

Developing an anion host for lipid A binding and antibacterial activity

Henderson, L. C., Li, J., Nation, R. L., Velkov, T. & Pfeffer, F. M., 2010, In: Chemical Communications. 46, p. 3197 - 3199 3 p.

Ligand-enhanced expression and in-cell assay of human peroxisome proliferator-activated receptor α ligand binding domain

Velkov, T., Rimmer, K. & Headey, S., 2010, In: Protein Expression and Purification. 70, 2, p. 260 - 269 10 p.

Self-assembly behavior of colistin and its prodrug colistin methanesulfonate: implications for solution stability and solubilization

Wallace, S. J., Li, J., Nation, R. L., Prankerd, R. J., Velkov, T. & Boyd, B. J., 2010, In: Journal of Physical Chemistry B. 114, p. 4836 - 4840 5 p.

Structure-Activity Relationships of Polymyxin Antibiotics

Velkov, T., Thompson, P., Nation, R. L. & Li, J., 2010, In: Journal of Medicinal Chemistry. 53, p. 1898 - 1916 19 p.

Thermodynamics of lipophilic drug binding to intestinal fatty acid binding protein and permeation across membranes

Velkov, T., 6 Apr 2009, In: Molecular Pharmaceutics. 6, 2, p. 557-570 14 p.

Characterization of lipophilic drug binding to rat intestinal fatty acid binding protein

Velkov, T., Hughes, M. L. R., Horne, H. J., Simpson, J. S., Porter, C. J. & Scanlon, M., 2009, In: Molecular and Cellular Biochemistry. 326, 1-2, p. 87 - 95 9 p.

Probing the fibrate binding specificity of rat liver fatty acid binding protein

Chuang, S., Velkov, T., Horne, H. J., Wielens, J., Chalmers, D. K., Porter, C. J. & Scanlon, M., 2009, In: Journal of Medicinal Chemistry. 52, 17, p. 5344 - 5355 12 p.

A protocol for the combined sub-fractionation and delipidation of lipid binding proteins using hydrophobic interaction chromatography

Velkov, T., Lim, M. L. R., Capuano, B. & Prankerd, R. J., 2008, In: Journal of Chromatography B. 867, 2, p. 238 - 246 9 p.

Characterization of the drug binding specificity of rat liver fatty acid binding protein

Chuang, S., Velkov, T., Horne, J., Porter, C. J. & Scanlon, M., 2008, In: Journal of Medicinal Chemistry. 51, 13, p. 3755 - 3764 10 p.

Ni²⁺-Based Immobilized Metal Ion Affinity Chromatography of Lactose Operon Repressor Protein from Escherichia Coli

Velkov, T., Jones, A. & Lim, M. L. R., 2008, In: Preparative Biochemistry & Biotechnology. 38, 4, p. 422 - 441 20 p.

Structural and biochemical characterization of the oxidoreductase NmDsbA3 from Neisseria meningitidis

Vivian, J., Scoullar, J., Robertson, A. L., Bottomley, S. P., Horne, H. J., Chin, K-Y. Y., Wielens, J., Thompson, P., Velkov, T., Piek, S., Byres, E., Beddoe, T. C., Wilce, M. C.J., Kahler, C. M., Rossjohn, J. & Scanlon, M., 2008, In: Journal of Biological Chemistry. 283, 47, p. 32452 - 32461 10 p.

Examination of the role of intestinal fatty acid-binding protein in drug absorption using a parallel artificial membrane permeability assay

Velkov, T., Horne, H. J., Laguerre, A. K., Jones, E. D., Scanlon, M. & Porter, C. J., 2007, In: Chemistry and Biology. 14, 4, p. 453 - 465 13 p.

Generation of mutant leukaemia inhibitory factor (LIF)-IgG heavy chain fusion proteins as bivalent antagonists of LIF

Jazayeri, J., De Weerd, N. A., Raye, W. S., Velkov, T., Santos, L. L., Taylor, D. & Carroll, G. J., 2007, In: Journal of Immunological Methods. 323, 1, p. 1 - 10 10 p.

Probing the Flexibility of the DsbA Oxidoreductase from Vibrio cholerae-a 15N - 1H Heteronuclear NMR Relaxation Analysis of Oxidized and Reduced Forms of DsbA

Horne, H. J., d'Auvergne, E. J., Coles, M., Velkov, T., Chin, Y., Charman, W. N., Prankerd, R. J., Gooley, P. & Scanlon, M., 2007, In: Journal of Molecular Biology. 371, 3, p. 703 - 716 14 p.

An improved purification procedure for cyclosporin synthetase

Velkov, T., Singaretnam, L. G. & Lawen, A., 2006, In: Protein Expression and Purification. 45, 2, p. 275 - 287 13 p.

An improved method for the purification of rat liver-type fatty acid binding protein from Escherichia coli

Velkov, T., Chuang, S., Prankerd, R. J., Sakellaris, H. H., Porter, C. J. H. & Scanlon, M. J., 2005, In: Protein Expression and Purification. 44, 1, p. 23 - 31 9 p.

The interaction of lipophilic drugs with intestinal fatty acid-binding protein

Velkov, T., Chuang, S., Wielens, J., Sakellaris, H. H., Charman, W. N., Porter, C. J. & Scanlon, M., 2005, In: Journal of Biological Chemistry. 280, 18, p. 17769 - 17776 8 p.

Mapping and molecular modeling of S-adenosyl-L-methionine binding site in N-methyltransferase domains of the multifunctional polypeptide cyclosporin synthetase

Velkov, T. & Lawen, A., 2003, In: Journal of Biological Chemistry. 278, 2, p. 1137 - 1148 12 p.

Non-ribosomal peptide synthetases as technological platforms for the synthesis of highly modified peptide bioeffectors - cyclosporin synthetase as a complex example

Velkov, T. & Lawen, A., 2003, In: Biotechnology Annual Review. 9, p. 151 - 197 47 p.

Photoaffinity labeling of the N-methyltransferase domains of cyclosporin synthetase

Velkov, T. & Lawen, A., 2003, In: Photochemistry and Photobiology. 77, 2, p. 129 - 137 9 p.

Mapping and molecular modeling of S-adenosyl-L-methionine binding sites in N-methyltransferase domains of the multifunctional polypeptide cyclosporin synthetase

Velkov, T. & Lawen, A., 2002, In: Journal of Biological Chemistry. 278, 2, p. 1137 - 1148 12 p.

Prizes

APP2022050 Development Grant (McDevitt) 2023 to 2025 Breaking drug resistance in community acquired bacterial pneumonia (CABP)

Velkov, Tony (Recipient), 2023

ARC Mid-Career Industry Fellowship 2024 to 2027 Novel mass-scale biosynthesis: tailoring chemical logic and biosynthesis

Velkov, Tony (Recipient), 2023

Australian National Health and Medical Research Council Peter Doherty Training Fellow

Velkov, Tony (Recipient), 2006

CARB-X (the Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator) AU\$2.68 million

Velkov, Tony (Recipient), 2023

Deans List status in the Faculty of Science for excellent achievement

Velkov, Tony (Recipient), 1996

Faculty of Pharmacy and Pharmaceutical Sciences Award for Research Impact (Economic and Social)

Velkov, Tony (Recipient), 2016

Member of the American Association for the Advancement of Science

Velkov, Tony (Recipient), 2004

Member of the American Protein Society

Velkov, Tony (Recipient), 2007

Member of the Anti-infective Pharmacology Group of the International Society Antimicrobial Chemotherapy

Velkov, Tony (Recipient), 2020

Member of the Australian Lung Foundation

Velkov, Tony (Recipient), 2009

Member of the Australian Pharmaceutical Science Association

Velkov, Tony (Recipient), 2006

Member of the Australian Society for Biochemistry and Molecular Biology

Velkov, Tony (Recipient), 2000

Member of the Australian Thoracic Society

Velkov, Tony (Recipient), 2009

Member of the Global Initiative on Antimicrobial Computational Pharmacology
Velkov, Tony (Recipient), 2020

Member of the Golden Key Honours Society (Australian Chapter)
Velkov, Tony (Recipient), 1998

Monash Biomedicine Discovery Institute Award for Outstanding Achievement - Industry Engagement and Commercialisation Award
Velkov, Tony (Recipient), 2022

Monash Major Interdisciplinary Research (IDR) Award
Velkov, Tony (Recipient), 2014

Monash University Linbrook Biochemistry Medal
Velkov, Tony (Recipient), 1995

Monash University Research Fund Postdoctoral Fellowship
Velkov, Tony (Recipient), 2001

NHMRC Career Development Industry Fellow Level 1
Velkov, Tony (Recipient), 2011

NHMRC Career Development Industry Fellow Level 2
Velkov, Tony (Recipient), 2015

NHMRC Research Excellence Award
Velkov, Tony (Recipient), 2011

NHMRC Research Excellence Award
Velkov, Tony (Recipient), 2015

NHMRC Ten of the Best Project Grant Award
Velkov, Tony (Recipient), 2015

REDI Industry Fellowship San Diego: Novel lipopeptide antibiotics targeting extremely drug resistant 'superbugs'.
Velkov, Tony (Recipient), 2022

Team Award for Research Impact [Economic and Social] (Faculty of Pharmacy and Pharmaceutical Sciences, Monash University)
Nation, Roger (Recipient), Velkov, Tony (Recipient), Li, Jian (Recipient), Roberts, Kade (Recipient) & Thompson, Philip (Recipient), 2016

University of Melbourne MDHS Faculty Research Fellowship
Velkov, Tony (Recipient), 2018

Vice Chancellors Award for Research Excellence, Deakin University
Velkov, Tony (Recipient), 2010

Vice-Chancellor's Award for Excellence in Research Engagement and Impact
Velkov, Tony (Recipient), 2022

Vice-Chancellor's Award for Excellence in Research Engagement and Impact (Monash University)

Nation, Roger (Recipient), Li, Jian (Recipient), Roberts, Kade (Recipient), Velkov, Tony (Recipient) & Thompson, Philip (Recipient), 2022

Victorian College of Pharmacy Early Career Researcher Award

Velkov, Tony (Recipient), 2008

Victorian Immunity and Infection Network Young Investigator Symposium Organizing Committee

Velkov, Tony (Recipient), 2016

Press/Media

A NEW WEAPON IN THE WAR AGAINST SUPERBUGS

Tony Velkov

15/10/21

1 Media contribution

ABC Radio

Tony Velkov

3/05/22

1 item of Media coverage

Antibiotic resistance is threatening our health. Will bacterial infection send us back to the medical dark age?

Tony Velkov

11/05/22

1 Media contribution

Antibiotic resistance: an arms race going on millions of years

Tony Velkov

2/06/22

1 item of Media coverage

From concept to clinic: How Monash researchers developed a novel antibiotic candidate to tackle deadly bacterial 'superbugs'

Tony Velkov

2/04/22

1 Media contribution

How to solve a problem like antibiotic resistance

Tony Velkov

3/03/17

1 Media contribution

Into the wild to fight antibiotic resistance

Tony Velkov

9/05/22

1 Media contribution

Melbourne scientist discovers how a natural antibiotic can 'deceive' superbugs

Tony Velkov

13/10/22

1 Media contribution

Natural antibiotic 'outsmarts' superbugs

Tony Velkov

3/06/20

1 Media contribution

New antibiotic to combat deadly bacterial 'superbugs' enters clinical trials

Tony Velkov

18/06/21

1 Media contribution

Projects

Advancing innovative therapies against pandrug-resistant Gram-negative superbugs

Li, J., Zhou, Q., Rao, G., Kaye, K. S. & Velkov, T.

NIH - National Institutes of Health (United States of America)

1/07/19 → 30/06/24

An examination of the role of sterol carrier protein and ileal bile acid binding protein in drug absorption: ID 384300

Velkov, T.

National Health and Medical Research Council (NHMRC) (Australia)

1/01/06 → 31/12/09

Antibacterial Material Design via Mechanism-Based Mathematical Modelling

Whittaker, M., Landersdorfer, C. & Velkov, T.

31/01/20 → 31/12/23

Binocular Stereo Microscope

Scanlon, M. & Velkov, T.

Collier Charitable Fund

1/01/07 → 31/12/07

Combating Deadly Gram-negative Lung Infections: An Inhalation and Systems Approach

Li, J. & Velkov, T.

NIH - National Institutes of Health (United States of America)

1/08/17 → 31/07/22

Combating bacterial 'superbugs' by innovative dosing strategies that combine available antibiotics to prevent resistance

Landersdorfer, C., Boyce, J., Bulitta, J. B. B., Kirkpatrick, C., Nation, R., Oliver, A. & Velkov, T.

National Health and Medical Research Council (NHMRC) (Australia)

1/01/13 → 31/12/16

Controlling a novel catalytic center within an innate immune system protein to dampen or heighten the immune response.

Irving, H., Velkov, T. & Manallack, D.

8/06/17 → 30/04/19

Deciphering the mechanisms of antibacterial activity and resistance of polymyxins in Gram-negative bacteria

Han, M. & Velkov, T.

1/07/16 → 30/06/17

Integrative systems pharmacology, neutron reflectometry and molecular dynamics approaches to unravelling the interaction between polymyxins and bacterial membranes

Li, J., Shen, H., Velkov, T., Song, J. & Schreiber, F.

1/01/18 → 31/12/23

NHMRC Career Development Award - Level 1 - Industry

Velkov, T.

National Health and Medical Research Council (NHMRC) (Australia)

1/01/11 → 31/12/14

New tricks for 'old' drugs:PK/PD of polymyxin nonantibiotic combinations

Li, J., Song, J., Forrest, A., Creek, D., Velkov, T., Purcell, A. & Hertzog, P.
NIH - National Institutes of Health (United States of America)
1/04/14 → 31/03/19

Novel octapeptin antibiotics targeting extremely drug resistant 'superbugs'

Velkov, T., Li, J. & Thompson, P.
1/01/17 → 31/10/17

Optimising inhaled polymyxins as a vital therapy for pulmonary infections: A novel biochemical, molecular imaging and systems pharmacology approach

Li, J., Chan, H., Velkov, T., Zhou, Q. & Zhou, F.
National Health and Medical Research Council (NHMRC) (Australia)
1/01/16 → 31/12/18

Pharmacology of intrathecal/intraventricular polymyxins: A systems-based approach

Rao, G., Velkov, T., Kaye, K. S. & Li, J.
1/07/20 → 30/06/24

Polymyxin-like lipopeptide antibiotics of the future

Velkov, T., Li, J. & Thompson, P.
National Health and Medical Research Council (NHMRC) (Australia)
1/01/14 → 31/12/16

Rescuing the last-line therapy colistin against Gram-negative 'superbugs': increasing the therapeutic index by attenuation of nephrotoxicity

Li, J., Hill, P. A., Nation, R. & Velkov, T.
National Health and Medical Research Council (NHMRC) (Australia)
1/01/12 → 31/12/14

Small molecule inhibitors of apical bile acid transporter in the ileum as therapeutic agents for hypercholesterolemia

Velkov, T.
Trustee for Helen Macpherson Smith Trust
17/03/11 → 31/12/12

Structural biology of mesothelin in the metastasis of asbestos-induced malignant pleural mesothelioma

Velkov, T.
Lung Foundation Australia
1/03/10 → 1/03/11

Targeting Superbugs: discovery and development of new broad-spectrum lipopeptide

Li, J., Dudley, M. N., Griffith, D., Hecker, S., Lomovskaya, O., Nation, R., Roberts, K., Thompson, P. & Velkov, T.
NIH - National Institutes of Health (United States of America)
1/06/12 → 31/05/17

Targeting polymyxin-resistant Gram-negative 'superbugs': development of novel antimicrobial peptides

Li, J., Nation, R., Thompson, P. & Velkov, T.
National Health and Medical Research Council (NHMRC) (Australia)
1/01/10 → 31/12/12

Targeting the Achilles' heel of polymyxins: eliminating the nephrotoxicity

Li, J., Nation, R., Thompson, P. & Velkov, T.
National Health and Medical Research Council (NHMRC) (Australia)
1/01/15 → 31/12/17

Targeting the Urgent Need for New Antibiotics against Gram-negative 'Superbugs'

Li, J., Velkov, T., Roberts, K., Thompson, P. & Nation, R.

1/08/17 → 31/07/23

The Hunt for New-generation Lipopeptide Antibiotics Targeting Gram-negative 'Superbugs'

Velkov, T.

National Health and Medical Research Council (NHMRC) (Australia)

1/01/15 → 31/10/17

The structure and receptor binding properties of the 2009 swine influenza pandemic Hemagglutinin

El-Kabbani, O. & Velkov, T.

National Health and Medical Research Council (NHMRC) (Australia)

1/07/09 → 30/06/10

UV-visible spectrophotometer and software

El-Kabbani, O., Capuano, B., Chung, R. & Velkov, T.

Collier Charitable Fund

1/01/09 → 30/09/09