Curriculum Vitae

Personal Information Lukas Valihrach, Ph.D.
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Nationality Czech
Date of Birth 26. 10. 1984
Sex male

Education

Ph.D.
September 2009 - May 2013
Institute of Chemical Technology / Prague, Czech Republic
- Expression of enterotoxin genes in *Staphylococcus aureus*

Bachelor and Master Degree with honors. In 2012 received Votočkovo stipendium - the highest award for outstanding Ph.D. students.

Research Positions

Senior Scientist
February 2013 – Present / Vestec, Czech Republic
Institute of Biotechnology CAS, Laboratory of Gene Expression
- Single-cell and spatial transcriptomics, Glial cell biology
- Leader of neurobiology research group (postdoc, 5 PhD students)

Visiting Scientist
June 2022 – Present / Prague, Czech Republic
Institute of Experimental Medicine CAS, Department of Cellular Neurophysiology

Fellowships

TATAA Biocenter
June 2014 – August 2014 / Gothenburg, Sweden
- Product development (miRNA detection - Two-tailed RT-qPCR)

Department of Veterinary and Animal Sciences, University of Copenhagen
March 2010 – July 2010 / Copenhagen, Denmark
- Regulation studies in *Staphylococcus aureus* - Jelsbak *et al.*, 2010

Memberships

Member of Federation of European Neuroscience Societies, Czech Neuroscience Society, Czech Medical Association of J. E. Purkyně and RNA Society
Board member of Bioinformatics doctoral programme (UCT Prague)
Supervisory board of Institute of Biotechnology CAS (vice-chairman)

Grants

GACR 23-05327S - main applicant
GACR 19-02046S, 16-10214S and NU21-08-00286 - co-applicant
EJPRD19-256, GACR 23-06269S, 22-10660S, 20-05770S, 18-21942S, 17-04034S and 13-02154S - team-member*
*key member, responsible for grant management, results, reporting

Technology Development

Two-tailed RT-qPCR
RT-qPCR system for miRNA quantification (WO2016027162A3). Developed in collaboration with TATAA Biocenter, licensed to Roche and BioVendor.

Publications

Total number	39	(November 2023, Google Scholar)
In last 5 years	26	(November 2023, Google Scholar)
Number of citations	1141	(November 2023, Google Scholar)
H-index	19	(November 2023, Google Scholar)

Selected publications in last 5 years

- Spatiotemporal transcriptomic map of ischemic brain injury. Zucha D, Abaffy P, Kirdajova D, Jirak D, Anderova M, Kubista M, **Valihrach L**. BioRxiv 2023.03.28.534553; doi: https://doi.org/10.1101/2023.03.28.534553.
- Complement C3a treatment accelerates recovery after stroke via modulation of astrocyte reactivity and cortical connectivity. Stokowska A, Aswendt M, Zucha D, Lohmann S, Wieters F, Moran Suarez J, Atkins AL, Li Y, Miteva M, Lewin J, Wiedermann D, Diedenhofen M, Torinsson Naluai Å, Abaffy P, **Valihrach L**, Kubista M, Hoehn M, Pekny M, Pekna M. J Clin Invest. 2023:e162253. IF = 19.456.
- ISL1 is necessary for auditory neuron development and contributes toward tonotopic organization. Filova I, Pysanenko K, Tavakoli M, Vochyanova S, Dvorakova M, Bohuslavova R, Smolik O, Fabriciova V, Hrabalova P, Benesova S, **Valihrach L**, Cerny J, Yamoah EN, Syka J, Fritzsch B, Pavlinkova G. Proc Natl Acad Sci U S A. 2022;119(37):e2207433119. doi: 10.1073/pnas.2207433119. IF = 12.779.
- Decoding the transcriptional response to ischemic stroke in young and aged mouse brain. Androvic P, Belov Kirdajova D, Tureckova J, Zucha D, Rohlova E, Abaffy P, Kriska J, Anderova M, Kubista M, **Valihrach L**. Cell Rep. 2020 Jun 16;31(11):107777. IF = 9.423.
- Performance Comparison of Reverse Transcriptases for Single-Cell Studies. Zucha D, Androvic P, Kubista M, **Valihrach L**. Clin Chem. 2019 Nov 7. pii: clinchem.2019.307835. IF = 8.327.
- Circulating miRNA analysis for cancer diagnostics and therapy. **Valihrach L**, Androvic P, Kubista M. Mol Aspects Med. 2019 Oct 18:100825. IF = 14.235.

International Collaborators

- Institute of Neuroscience and Physiology, University of Gothenburg, Sweden
- UMC Utrecht Brain Center, Utrecht University, Netherlands
- Wroclaw University of Environmental and Life Sciences, Poland
- Lund Stem Cell Center, Lund University, Sweden

Lecturing

International qPCR, QC and miRNA courses organized by TATAA Biocenter
Single-cell gene expression analysis - PhD course at Faculty of Science, Charles University

Students

Supervised/-ing 2 postdoc, 7 PhD, 3 MSc and 4 Bc students
1 PhD thesis, 3 MSc theses, 1 Bc thesis defended
Co-supervisor of PhD students at Wroclaw University, Poland

Invited Lectures

7th Gene Quantification Event qPCR dPCR & NGS 2017, Single Cell Europe Conference 2018, 7th European Stroke Conference - ESOC 2021, 3rd International Symposium on Microgenomics 2021, 13th Conference of the Czech Neuroscience Society, 1st 10x genomics experience meeting 2022,10x Genomics 2022 MIDDLE EAST AND AFRICA User Group Meeting, 10th Gene Quantification Event 2023, 14th Conference of the Czech Neuroscience Society, NextGen Omics 2023, BIOCEV Regeneration III

Media

vzacni.cz, idnes.cz, studio6, nature.com, tyden.cz, chemagazin.cz