

# Curriculum Vitae and list of publications

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## Personal Details:

**Address:** Czech Republic, Prague 10,  
Podléšková 67/2275, 10600

**Date of birth:** 4.4.1991, Prague

**Nationality:** Czech

**Email:** [bornas@img.cas.cz](mailto:bornas@img.cas.cz)

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## Education:

### 2016 – present

Ph.D. degree, Immunology - Charles University in Prague, Faculty of Science and Institute of Molecular Genetics of the Czech Academy of Sciences, Prague  
Thesis title: Regulation of leukocyte signal transduction by membrane adaptor proteins and kinases  
Supervisor: Tomáš Brdička

### 2014 – 2016

Master's degree, Immunology - Charles University in Prague, Faculty of Science and Institute of Molecular Genetics of the Czech Academy of Sciences, Prague  
Thesis title: Analysis of the resistance of B cell antigen receptor signaling to the inhibition of Src-family kinases  
Supervisor: Tomáš Brdička, Ph.D.

### 2011 –2014

Bachelor's degree, Molecular Biology and Biochemistry of Organisms - Charles University in Prague, Faculty of Science,  
Thesis title: Transmembrane adaptor proteins and their roles in immunoreceptor signaling  
Supervisor: Prof. Václav Hořejší

## Working Experiences:

**Part time job:** **2012 – 2015** Technician. Analysis of TCR and BCR signaling. Laboratory of Molecular Immunology (Group leader V.Horejsi), Institute of Molecular Genetics of the Czech Academy of Sciences

**2019 – present** Contract work. Supervising Flow cytometry experiments for Laboratory of Functional Morphology, Institute of Physiology of the Czech Academy of Sciences, Prague

**Full time job:** **2015 – 2016** Technician. Analysis of TCR and BCR signaling. Laboratory of Leukocyte Signaling (Group leader T.Brdicka), Institute of Molecular Genetics of the Czech Academy of Sciences  
**2016 – present** Doctorand. PhD related and collaborative projects. Laboratory of Leukocyte Signaling (Group leader T.Brdicka), Institute of Molecular Genetics of the Czech Academy of Sciences

## Skills:

**Molecular Biology based laboratory techniques:** DNA cloning (from RNA isolation to chimeric proteins), CRISPR-Cas9 mediated KO technology, qPCR, transfection, electroporation, retrovirus and lentivirus production followed by cell transduction, FACS (BD LSR II, BD Calibur, BD Symphony, intracellular staining, multi-color experiments, compensation, calcium kinetics, basics of FRET), magnetic-activated cell sorting (MACS), immunoprecipitation, tandem purification of proteins for MS/MS, western blot, preparation of soluble and membrane protein fractions, primary cell cultures, mouse bone marrow cell immortalization (ER-Hoxb8 systems), confocal microscopy (basics on Leica Sp8 and Sp5), cell sorting.

**Laboratory animal techniques:** Human or murine bone marrow cell transplantation to NSG or regular mice, LSK bone marrow cell transplantation, bone marrow homing experiments, isolation of common immune cell types and organs.

**Software:** FACSdiva, FlowJo, DNASTAR Lasergene, ImageJ (basics), Adobe Photoshop and Illustrator, Microsoft office (Excel, PowerPoint, Word), MaxQuant (basics).

**Languages:** English, Czech.

## Certificates:

Certificate of professional competence to design experiments and experimental projects under Section 15d of act No246/1992 coll., on the protection of Animals against Cruelty.

## List of publications

1. **Simon Borna**, Matej Fabisik, Kristyna Ilievova, Tomas Dvoracek and Tomas Brdicka *Differential threshold for sensing Src-family kinase activity by B cell and T cell antigen receptors*. Unpublished.
2. **Borna S**, Drobek A, Kralova J, Glatzova D, Splichalova I, Fabisik M, Pokorna J, Skopцова T, Angelisova P, Kanderova V, Starkova J, Stanek P, Matveichuk OV, Pavliuchenko N, Kwiatkowska K, Proty MB, Tomlinson MG, Alberich-Jorda M, Korinek V, Brdicka T: *Transmembrane adaptor protein WBP1L regulates CXCR4 signalling and murine haematopoiesis*. **J Cell Mol Med** **2020** 24(2): 1980-1992., Jan 2020, 10.1111/jcmm.14895
3. Jarmila Kralova, Ales Drobek, Jan Prochazka, Frantisek Spoutil, Matej Fabisik, Daniela Glatzova, **Simon Borna**, Jana Pokorna, Tereza Skopцова, Pavla Angelisova, Martin Gregor, Pavel Kovarik, Radislav Sedlacek, and Tomas Brdicka: *Dysregulated NADPH oxidase promotes bone damage in murine model of autoinflammatory osteomyelitis*. **J Immunol** , 204 (6), 1607-1620, 2020 Mar 15, 10.4049/jimmunol.1900953
4. Kralova J, Glatzova D, **Borna S**, Brdicka T: *Expression of Fluorescent Fusion Proteins in Murine Bone Marrow-derived Dendritic Cells and Macrophages*. **J Vis Exp** **2018 (140)** e58081, 2018 Oct 30, 10.3791/58081

## Conferences:

2014 11th EFIS-EJI Tatra Immunology Conference, Slovakia  
2015 V4 International Conference Analytical Cytometry VIII, Czech Republic  
2016 12th EFIS-EJI Tatra Immunology Conference, Slovakia, poster presentation  
2017 14th International Conference on Innate Immunity, Greece, oral presentation.  
2018 13th EFIS-EJI Tatra Immunology Conference, Slovakia, poster presentation  
2018 5<sup>th</sup> European Congress of Immunology (ECI), Amsterdam, oral presentation

## Referees:

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