

Curriculum vitae

Name

Balázs Pósfai

Place and date of birth

Budapest, 1991.10.03.

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Qualification

Doctor of Medicine



Education

2017-2021	János Szentágotthai Doctoral School of Neurosciences
2011-2017	Semmelweis University, Faculty of Medicine
2006-2011	Baár-Madas Calvinist High School
2002-2006	Thomas Mann Gymnasium, Deutsche Schule Budapest

Workplace

Institute of Experimental Medicine, Szigony utca 43, Budapest 1083, Hungary

2021-	<i>Junior Research Fellow</i> Department of Molecular and Developmental Neuroscience, Momentum Laboratory of Neuroimmunology
2017-2021	<i>PhD student</i> Department of Molecular and Developmental Neuroscience, Momentum Laboratory of Neuroimmunology
2010-2017	<i>undergraduate student</i> Department of Cellular and Network Neurobiology, Laboratory of Cerebral Cortex Research

Research Area

Molecular Anatomy of Microglia-Neuron Contacts

Publications

Shaping Neuronal Fate: Functional Heterogeneity of Direct Microglia-Neuron Interactions

C. Cserép, **B. Pósfai**, Á. Dénes
Neuron (2020), DOI: 10.1016/j.neuron.2020.11.007

Microglia alter the threshold of spreading depolarization and related potassium uptake in the mouse brain

DP. Varga, Á. Menyhárt, **B. Pósfai**, E. Császár, N. Lénárt, C. Cserép, B. Orsolits, B. Martinecz, T. Szlepák, F. Bari, E. Farkas, Á. Dénes

Journal of Cerebral Blood Flow & Metabolism (2020), DOI:
10.1177/0271678X19900097

Microglia monitor and protect neuronal function through specialized somatic purinergic junctions

C. Cserép*, **B. Pósfai***, B. Orsolits, G. Molnár, S. Heindl, N. Lénárt, R. Fekete, ZI. László, Z. Lele, AD. Schwarcz, K. Ujvári, L. Csiba, T. Hortobágyi, Z. Maglóczy, B. Martinecz, G. Szabó, F. Erdélyi, R. Szipőcs, B. Gesierich, M. Duering, I. Katona, A. Liesz, G. Tamás, Á. Dénes

Science (2019), DOI: 10.1126/science.aax6752

* equal contribution

Brainstem nucleus incertus controls contextual memory formation

A. Szőnyi, KE. Sós, R. Nyilas, D. Schlingloff, A. Domonkos, VT. Takács, **B. Pósfai**, P. Hegedüs, J. Priestley, A. Gundlach, AI. Gulyás, V. Varga, A. Losonczy, TF. Freund, G. Nyiri

Science (2019), DOI: 10.1126/science.aaw0445

New Insights into Microglia–Neuron Interactions: A Neuron’s Perspective

B. Pósfai*, C. Cserép*, B. Orsolits, Á. Dénes

Neuroscience (2019), DOI: 10.1016/j.neuroscience.2018.04.046

* equal contribution

Co-transmission of acetylcholine and GABA regulates hippocampal states

VT. Takács, C. Cserép, D. Schlingloff, **B. Pósfai**, A. Szőnyi, KE. Sós, Z. Környei, Á. Dénes, AI. Gulyás, TF. Freund, G. Nyiri

Nature Communications (2018), DOI: 10.1038/s41467-018-05136-1

Mitochondrial Ultrastructure Is Coupled to Synaptic Performance at Axonal Release Sites

C. Cserép, **B. Pósfai**, AD. Schwarcz, Á. Dénes

eNeuro (2018), DOI: 10.1523/ENEURO.0390-17.2018

Synaptic and cellular changes induced by the schizophrenia susceptibility gene G72 are rescued by N-acetylcysteine treatment

B. Pósfai*, C. Cserép*, P. Hegedüs, E. Szabadits, DM. Otte, A. Zimmer, M. Watanabe, TF. Freund, G. Nyiri

Translational Psychiatry (2016), DOI: 10.1038/tp.2016.74.

* equal contribution

Other Communications in the last 5 years

Molecular Anatomy and Function of Somatic Microglia-Neuron Junctions

B. Pósfai, C. Cserép, K. Ujvári, AD. Schwarcz, Á. Dénes

PhD Scientific Days

Budapest, July 7-8, 2021

P2Y12 receptors are essential for physiological tissue distribution, 3D morphology and motility of microglia

B. Pósfai, C. Cserép, R. Fekete, K. Tóth, AD. Schwarcz, K. Ujvári, Á. Dénes

1st International Stroke-Immunology Conference

March 1-3, 2021

P2Y12 receptors are essential for physiological tissue distribution, 3D morphology and motility of microglia

B. Pósfai, C. Cserép, R. Fekete, K. Tóth, AD. Schwarcz, K. Ujvári, Á. Dénes

PhD Scientific Days 2020

Budapest, August 31-September 1, 2020

Microglia monitor and protect neuronal function via specialized somatic purinergic junctions

B. Pósfai

4th Hungarian Neuroscience Doctoral Conference

Szeged, January 28, 2020

Best Presentation Award

Studying the complex roles of microglia with high resolution imaging and microglia manipulation approaches (invited lecture)

B. Pósfai

14th Multinational Congress on Microscopy

Belgrade, September 15-20, 2019

A novel type of microglia-neuron interaction and the role of P2Y12 receptors

B. Pósfai, C. Cserép, R. Fekete, AD. Schwarcz, K. Ujvári, N. Lénárt, B. Orsolits, ZI. László, Z. Lele, I. Katona, Á. Dénes

14th Multinational Congress on Microscopy

Belgrade, September 15-20, 2019

Best Poster Award

P2Y12 receptors are essential for physiological tissue distribution, 3D morphology and motility of microglia

B. Pósfai, C. Cserép, R. Fekete, N. Lénárt, AD. Schwarcz, K. Ujvári, Á. Dénes

Brain & Brain PET 2019 – The 29th International Symposium on Cerebral Blood Flow, Metabolism and Function

Yokohama, July 4-7, 2019

Mitochondrial Ultrastructure Is Coupled to Synaptic Performance at Axonal Release Sites

C. Cserép, **B. Pósfai**, AD. Schwarcz, Á. Dénes

Conference of the Hungarian Society for Microscopy

Siófok, May 23-25, 2019

Microglia monitor and protect neuronal function via specialized somatic purinergic junctions

B. Pósfai, C. Cserép, K. Ujvári, AD. Schwarcz, R. Fekete, N. Lénárt, Á. Dénes

PhD Scientific Days

Budapest, April 25-26, 2019

Microglia monitor and influence neuronal function via specialized somatic contact sites in a mitochondrial activity- and P2Y12R-dependent manner

C. Cserép, **B. Pósfai**, B. Orsolits, G. Molnár, S. Heindl, N. Lénárt, R. Fekete, AD.

Schwarcz, K. Ujvári, Z. László, Z. Lele, I. Katona, R. Szipócs, A. Liesz, G. Tamás, Á. Dénes

Neuroimmune Communication in Health and Disease, Gordon Research Conference

Ventura, CA, January 13-18, 2019

The importance of nanometer-scale molecular imaging in studying dynamic cellular actions

B. Pósfai

New approaches and applications of STORM super-resolution imaging in life sciences, Scientific Symposium

Budapest, November 30, 2018

Mitochondrial ultrastructure is coupled to synaptic performance at axonal release sites

B. Pósfai, C. Cserép, AD. Schwarcz, Á. Dénes

9th World Congress on Targeting Mitochondria, Berlin, October 24-25, 2018

Best Poster Award

Mitochondria: Central Players in Microglia-Neuron Interactions

C. Cserép, **B. Pósfai**, B. Orsolits, G. Molnár, N. Lénárt, R. Fekete, AD. Schwarcz, K.

Ujvári, G. Tamás, Á. Dénes

9th World Congress on Targeting Mitochondria

Berlin, October 24-25, 2018

The nucleus incertus specifically targets neurons responsible for the formation of contextual memory

Zichó K, Szőnyi A, Schlingloff D, Sós KE, Takács VT, **Pósfai B**, Hegedüs P, Bardóczi Zs, Gulyás A, Freund TF, Nyiri G

FENS Regional Meeting

Pécs, September 20-23, 2017

Synaptic and cellular changes induced by the schizophrenia susceptibility gene G72 are rescued by N-acetylcysteine treatment

B. Pósfai, C. Cserép, P. Hegedüs, E. Szabadits, DM. Otte, A. Zimmer, M. Watanabe, TF. Freund, G. Nyiri

10th FENS Forum of Neuroscience

Copenhagen, July 2-6, 2016

Main Awards

- 2021 New National Excellence Program Scholarship
Semmelweis 250+ PhD Excellence Scholarship
- 2020 Outstanding Paper Award - European Microscopy for Society
Doctoral Student Scholarship of the Co-Operative Doctoral Program
New National Excellence Program Scholarship
- 2019 Electron Microscopic Award (Hungarian Society for Microscopy)
New National Excellence Program Scholarship
Best Poster Award - Life Sciences (14th Multinational Congress on Microscopy)
- 2017 Pro Scientia Gold Medal
XXXIII. National USRA - Special prize from Pro Scientia Gold Medalists' Society
- 2016 Stephen W. Kuffler Research Scholarship for Central European Students
New National Excellence Program Scholarship
Scholarship of the Hungarian Republic for the academic year 2016/2017
- 2015 Scholarship of the Hungarian Republic for the academic year 2015/2016
- 2014 Scholarship of the Hungarian Republic for the academic year 2014/2015