

# ISTVÁN ADORJÁN

## Curriculum vitae

### Personal information:

**E-mail:** adorist@freemail.hu

**Place and date of birth:** Budapest, Hungary 15/10/1980



### Previous and current jobs

**November 2013-**

**Department of Physiology, Anatomy and Genetics,  
University of Oxford, UK**

Position: **Postdoctoral Research Fellow**

Job description, responsibilities: research on the structure of the human subventricular zone and its alterations under pathological conditions such as schizophrenia and autism

**September 2012-October 2013**

**Department of Anatomy, Histology and Embryology,  
Semmelweis University Budapest**

Position: **Research Fellow**

Job description, responsibilities: giving anatomy and histology practices and lectures in Hungarian, English and German languages; examining Hungarian, English and German speaking first and second year medical students; course director of first year Hungarian medical students, organization of the research activity of medical students; tutoring the diploma work of end year medical students

**March 2011-August 2012**

Position: **Lecturer**

Job description, responsibilities: giving anatomy and histology practices and lectures in Hungarian, English and German languages; examining Hungarian and English speaking first and second year medical students; organization of the research activity of medical students; tutoring the diploma work of end year medical students

**March 2008 - March 2011**

Position: **Assistant Research Fellow**

Job description, responsibilities: see previous paragraph

**September 2004 – February 2008** Position: **PhD Student**

Job description, responsibilities: giving anatomy and histology practices in Hungarian and English languages; organization of the research activity of medical students

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**August 2001 – May 2004**

**Position:** Undergraduate Research Assistant  
**Job description, responsibilities:** research work on the field of neuroscience

## **Trainings:**

**September 2004 - May 2012**

**School of PhD Studies, Semmelweis University  
Budapest**  
**Student status:** PhD Student  
**Certificate:** PhD diploma in Neuroscience

**September 1999 - August 2005**

**Faculty of Medicine, Semmelweis University  
Budapest**  
**Student status:** medical student  
**Certificate:** MD diploma

## **Scholarships and stipends:**

**August 2008**

**German Language Scholarship  
University of Heidelberg, Germany**  
**Duration:** 1 month

**November 2007**

**Travel Stipend of the Semmelweis School of PhD  
Studies**  
**Venue:** Meeting of Society for Neuroscience, San  
Diego, USA  
**Duration:** 2 weeks

**October 2006**

**Travel Stipend of the Semmelweis School of PhD  
Studies**  
**Venue:** Meeting of Society for Neuroscience, Atlanta,  
USA  
**Duration:** 2 weeks

**June 2005**

**HUMSIRC (Hungarian Medical Students  
International Relations Committee) Scholarship  
Cardiology Practice, University of Pisa, Italy**  
**Duration:** 1 month

**December 2004 – February 2005**

**ERASMUS Scholarship  
Pediatrics, Gynecology and Obstetrics Practice, Tor  
Vergata University of Rome, Italy**  
**Durations:** 3 months

**August 2004**

**HUMSIRC (Hungarian Medical Students  
International Relations Committee) Scholarship  
Cardiology Practice, University of Messina, Italy**  
**Duration:** 1 month

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## Memberships:

2010-	Society for Neuroscience
2006-	Hungarian Neuroscience Society
2005-	Hungarian Medical Chamber

## Language skills:

English: fluent  
German: intermediate  
Italian: intermediate  
Latin: intermediate  
French: elementary

## Research fields:

The **subventricular zone (SVZ)** is a thin secondary germinative zone along the ventricular system where neurogenesis takes place in adulthood as well. In recent years studies by Mercier et al. (2000, 2003) described a fine network formed by laminin. This network extends from the basal lamina of cerebral vessels to the ependyma through the **SVZ** and supposed to have role in functional plasticity and neurogenesis by serving as a pathway for cytokines and growth factors.

Dystroglycan is a laminin receptor, which with dystrophins and other components form the **dystrophin-glycoprotein complex (DGC)**. It has an important role in the formation of gliovascular connections, cerebral vascularisation and blood-brain barrier. Dystroglycan consists of two sub-units,  $\alpha$  and  $\beta$ . Previous studies demonstrated that the  $\beta$ -dystroglycan immunoreactivity of cerebral vessels temporarily disappeared in the area adjacent to the lesion, whereas the vascular laminin became detectable which is not immunoreactive in the intact brain. Our investigations are extended over other components of the complex, such as utrophin,  $\alpha 1$ -syntrophin and  $\alpha 1$ -dystrobrevin.

**B-dystroglycan** has a central position in the **DGC** and anchors among others the aquaporin-rich cell membrane domains to the laminin of the extracellular matrix therefore seems to determine the distribution of **aquaporin-4**. Our researches aim to investigate the aforementioned connection along the ventricular system and in some specialized region such as the **circumventricular organs**.

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## **Research skills:**

Small animal surgery

Immunohistochemistry

Electron microscopy

Multiphoton microscopy

Western blot

Confocal laser scanning microscopy

Three-dimensional digital reconstruction

## **Research themes:**

The three-dimensional reconstruction of the developing and mature subventricular zone

In vivo investigation of the neurovascular unit following ischaemic conditions in transgenic mice

The distribution of aquaporin channel proteins during the development of ependyma

## **Publications:**

Kálmán M, Mahalek J, Adorján A, Adorján I, Pócsai K, Bagyura Z, Sadeghian S. 2011. Alterations of the perivascular dystrophin-dystroglycan complex following brain lesions. An immunohistochemical study in rats. *Histol Histopathol*, (11):1435-52. IF: 2,502

Wappler EA, Adorján I, Gál A, Galgóczy P, Bindics K, Nagy Z. 2011. Dynamics of dystroglycan complex proteins and laminin changes due to angiogenesis in rat cerebral hypoperfusion. *Microvasc Res*, 81(2):153-9. IF: 2,390

Adorján I, Kálmán M. 2009. Distribution of beta-dystroglycan immunopositive globules in the subventricular zone of rat brain. *Glia*, 57(6):657-66. IF: 4,932

Goren O, Adorján I, Kálmán M. 2006. Heterogeneous occurrence of aquaporin-4 in the ependyma and in the circumventricular organs in rat and chicken. *Anat Embryol (Berl)*, 211(2):155-72. IF: 1,277

## **PhD Thesis:**

Distribution of  $\beta$ -dystroglycan and aquaporin-4 in the ependyma and subventricular zone. 2012. School of PhD Studies, Semmelweis University, Budapest, Hungary.

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## **Presentations of supervised undergraduate researchers:**

Visolyi G, Berecz E. 2011. The development of the subventricular zone situated in the lateral ventricle: an immunohistochemical study in rat. Semmelweis University, TDK Conference, Budapest.

Bindics K. 2010. Phases of regeneration of Bergmann glia following stab wound of rat cerebellum. Semmelweis University, TDK Conference, Budapest.

Galgóczy P, Bindics K. 2009. Dynamics of GFAP and nestin following cerebellar lesion in rat. Semmelweis University, TDK Conference, Budapest.

Bindics K, Galgóczy P. 2008. Immunohistochemical changes of cerebellar vessels following acute and chronic hypoperfusions. Semmelweis University, TDK Conference, Budapest.

## **Diplome work of supervised student:**

Bindics K. 2011. Investigation of Bergmann glia in rat. Semmelweis University, Budapest.