

CURRICULUM VITAE

BRAULT
Véronique
Birth: 09/02/1971
Grade: CRCN

UMR7104 IGBMC
1 rue Laurent Fries
67404 Illkirch Cedex
Email : vbrault@igbmc.fr

ACADEMIC EDUCATION / TRAINING:

EDUCATION

1990 - 1993 Bachelor of Sciences degree in Genetics, UCL, Londres, Angleterre.
1993 - 1994 Diplôme d'Etudes Approfondies in Molecular and Cellular Biology
Université Louis Pasteur, Strasbourg, France.
1994 - 1998 PhD in Biochemistry, University of Basel, Swiss.
June 2009 Habilitation à Diriger les Recherches, University of Orléans, France.

TRAINING

September 1994 Training in Electronic microscopy, University of Basel, Swiss.
Jan/Fev 2004 Training in Mouse Genetics and Behaviour, Atelier INSERM
June 2004 Training in « flow cytometry », Orléans, France
October 2004 Training in Animal Experimentation, level I, Paris, France
April 2007 Training in « Statistical analysis of small samples », Tours, France.
January 2015 Training « Electrophysiological recordings in brain slices using multi-electrode arrays », Cambridge, England.
September 2015 Training Bioinformatique – Introduction to Next Generation Sequencing data analysis, Strasbourg, France.
April 2017 Training TransMem: Brain and memory: concepts and transdisciplinary approaches
September 2018 « Training Single Cell 10X Genomics »
November 2018 training « Python pour l'analyse de processus biologiques », Bordeaux, France

PROFESSIONAL EXPERIENCE AND RESEARCH PROJECTS:

Sept. 1994-August 1998: PhD student in the laboratory of Structural Biology, Institut M.E. Müller, Biocenter, Basel, Swiss. "Impact of different actin isoforms on structure and muscle function".

Oct. 1998-August 2000: Researcher in the team of Molecular Embryology of Prof. R. Kemler, Max Planck Insitut, Freiburg, Germany. Role of Wnt/ β -catenin in embryonic development

Sept. 2000-Dec. 2002: Head of a group (contract BAT II) within the team of Molecular Embryology of Prof. R. Kemler, Max Planck Insitut, Freiburg, Germany.

Jan. 2003-Sept. 2003: Researcher CDD at the IEM, CNRS UMR6218, Orléans, France. Making mouse models for Down syndrome and Monosomy 21.

Oct. 2003-Sept. 2007: Chargée de Recherche (CR) 2nd class at the IEM, CNRS UMR6218, Orléans, France. Phenotypic analysis of mouse models of Down syndrome.

Oct. 2007-Dec 2009: Chargée de Recherche (CR) 1st class at the IEM, CNRS UMR6218, Orléans, France

Since Jan. 2010: Chargée de Recherche (CR) 1st class at the IGBMC, CNRS UMR7104, Strasbourg, France. Analysis of neurologic deficits in Down syndrome and Mental retardation 7 syndrome.

FIVE MAIN PUBLICATIONS

Brault, V., Moore, R., Kutsch, S., Ishibashi, M., Rowitch, D., McMahon, A.P., Sommer, L., Boussadia, O. and Kemler, R. (2001). Inactivation of the β -catenin gene by Wnt1-Cre-mediated deletion results in dramatic brain malformation and failure of craniofacial development. *Development* 128: 1253-1264.

Lee HY, Kléber M, Hari L, **Brault V**, Suter U, Taketo MM, Kemler R. and Summer L. (2004). Instructive role of Wnt/beta catenin in sensory fate specification in neural crest stem cell specification. *Science* 303 1020-1023. PMID: 14716020.

Brault V., Duchon A., Romestaing C., Sahun I., Pothion S., Karout M., Borel C., Dembele D., Bizot J.-C., Messadeq N., Sharp A. J., Roussel D., Antonarakis S. A., Dierssen M. and Hérault Y (2015). Mirror phenotypes of muscle strength and exercise tolerance in mouse models of partial trisomy and monosomy 21 for the proximal *Stch-App* region. *PLoS Genetics*. 11(3): e1005062. PMID: 25803843.

de Angelis MH, Nicholson G, Selloum M, White JK, Morgan H, Ramirez-Solis R, Sorg T, Wells S, Fuchs H, Fray M, Adams, DJ, Adams NC, Adler T, Aguilar-Pimentel A, Ali-Hadji D, Amann G, Andre P, Atkins S, Auburtin A, Ayadi A, Becker J, Becker L, Bedu E, Bekeredjian R, Birling MC, Blake A, Bottomley J, **Brault V**, ... (2015). Analysis of mammalian gene function through broad-based phenotypic screens across a consortium of mouse clinics. *Nature Genetics*, Vol. 47, Issue 9, pages 969-978. PMID: 26214591

Maréchal D, **Brault V**, Leon A, Martin D, Lopes Pereira P, Loaëc N, Birling MC, Friocourt G, Blondel M and Hérault Y (2019). Cbs overdosage is necessary and sufficient to induce cognitive phenotypes in mouse models of Down syndrome and interacts genetically with Dyrk1a. *Hum Mol Genet* 28: 1561-1577. PMID: 30649339.

COLLECTIVE AND RESEARCH INVOLVMENT

Student supervision

- Since sept. 2018: co-direction PhD, Helin Atas, Ecole Doctorale, Université de Strasbourg.
- Jan.-June 2020: Judith Meyer, Master I project, Université de Strasbourg.
- June 2019 and Sept-Dec. 2019: Jade Eck, BTS 1st and 2nd year projects, Lycée Jean Rostand à Strasbourg.
- Jan-Feb. 2019 : Allan Müller, Master I project, Université de Strasbourg.
- Sept 2017 - June 2018 : Coralie Borne, Master II project, Université de Strasbourg.
- Sept 2016 - June 2017 : Lola Madeira, Master II project, Université de Strasbourg.
- Mai-June 2016 : Marine Fellman, Master I project, Faculté de Pharmacie, Illkirch.
- Sept. 2015-June 2016 : David Hanriot, Master II project, Université de Strasbourg
- March 2015-August 2015 : Morgan Liebert, Master II, Université de Strasbourg
- Jan. 2015-June 2015 : Claire Weber, Master II project, Université de Strasbourg
- Sept 2013-June 2014 : Javier Flores, Joint Mastet in Neurosciences, Universities of Basel, Freiburg and Strasbourg.
- Mai-June 2013 : Caroline Demandre, Master I, Faculté de Médecine, Strasbourg.
- Sept. 2012-June 2013 : Marcia Silva de Souza, Master II project, Université de Strasbourg.
- Sept. 2011-June 2012 : Mona Karout, Master II project, Université de Strasbourg.

Education interventions:

- University of Basel, 1994-1998: Instructor in the course "Introduction to optic microscopy".
- University of Orléans, 2008-2009:
 - o Teaching and organization of the MII module "Genetics".
 - o Teaching in the PhD. Module « Developmental Genetics (10 H)
- Member of the Journées du Campus d'Illkirch organization comity (since 2014): PhD and Post-doc students from Campus Illkirch (ESBS, IGBMC, faculté de pharmacie) meeting with oral presentations and scientific conferences.
- Intervention in collèges and lycées schools for the Téléthon (since 2015): "Rare genetic diseases".
- Participation at the DECLICS days (since 2019): dialog between researchers and school students.

Research responsibilities:

2008-2009 (IEM, Orléans, France) :

- Member of the ethical committee for experimentation with animals in the Campus CNRS of Orléans.
- Implementation of the ISO9001 quality approach for «Research project management» and responsible for the management of research projects under ISO9001/2000 quality and for the management of interfaces with the animal facility as part of the animal store accommodation support process at the IEM.
- Jury member for the thesis commission of M. Constantine Maher, University Paris Diderot.

2010-2020 (IGMBC, Illkirch, France):

- Organization of the retreats of the Department “Médecine Translationnelle et Neurogénétique”.
- Paper reviewing for the Plos One journal.
- Jury member for the selection of PhD students for the MRT scholarship of the Doctoral school of Strasbourg and of the doctoral school BioSE (ED266) of Nancy.
- External consulting expert for the attribution of financing of research teams within the framework of the Call for Internal Projects of the University of Lorraine.
- Jury member for the thesis commission of Mme. Yuchen Gu, University Paris Diderot.

GRANTS

2002-2005: European program T21-Targets (1700 k€) ”Understanding the chronic neurological alterations of Down syndrome and their associated phenotypes”. Participant.

2006-2011: European program AnEuploidy (12 M€) ”Understanding gene dosage imbalance in human health using genetics, functional genomics and system biology”. Participant.

2007-2012: European program EUMODIC (12 M€) ” The European Mouse Disease Clinic: a distributed phenotyping resource for studying human disease ». Participant.

2011-2013: Project grant, Fondation J. Lejeune (52 k€) ”Looking for new genes implicated in the Down syndrome pathology present on the Stch-App region”. Project leader.

2013-2015:

- Project grant, Fondation J. Lejeune (36 k€) “Impact of Dyrk1a function in glutamatergic neurons of mouse models of Down syndromes”. Project leader.
- ANR Emergence (78 €) “Role of DYRK1A in controlling the GABAergic and glutamatergic balance in normal and pathological conditions”. Participant.

2014-2016: Project grant, Fondation J. Lejeune (51,5 k€) “Impact of Cbs function alteration in cerebral aging”. Project leader.

2017-2019: Project grant, Fondation J. Lejeune (40 k€) “Impact of Dyrk1a function in GABAergic neurons of mouse models of Down syndromes”. Project leader.

2018-2022: ANR DYRKDOWN (176 k€) “DYRK1A, a dosage sensitive gene at the crossroad of development and brain function for treating Down syndrome”. Participant.