

# Sandra Derouiche

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**Date of birth:** 1<sup>st</sup> April 1984

**Nationality:** French

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## Academic Qualifications

- 2008/2012: PhD in Molecular and Cellular Biology  
Cell Physiology Laboratory (University of Lille 1, France)
- 2006/2008: Master in Biology and Health, Genetic and Microbiology specialization  
University of Lille 2, France
- 2003/2006: Licence of Cell biology and Physiology  
University of Lille 1, France
- 2001/2002: 1<sup>st</sup> year of medical school  
Faculty of Henri Warembourg, Lille, France

## Research Experience

- 2015/present: **Research fellow** “Involvement of thermosensitive TRP channels in temperature-dependent movement of microglia”  
Division of Cell Signaling, NIPS, Thermal biology group, Exploratory Research Center on Life and Living Systems (ExCELLS), National Institutes of Natural Sciences, 5-1 Higashiyama, Myodaiji-cho, Okazaki, Aichi 444-8787, Japan.

My current interest is on ion channels involvement in physiological processes, especially on exocrine gland fluid secretion and immune cells migration. I am now focusing on thermosensitive TRP channels in sweat gland cells as well as in microglia and on how temperature modify the physiological functions of these cells.

- 2013/2015: **JSPS Post-doctoral Researcher** “Functional interaction of TRP channels and anoctamins in the secretion of saliva and tears”,  
Division of Cell Signaling, NIPS, 5-1 Higashiyama, Myodaiji-cho, Okazaki, Aichi 444-8787, Japan

- 2009/2012: **PhD trainee** “Implication of ion channels in the impact of environmental factors on prostate cancer progression”,  
Cell Physiology Laboratory, INSERM U1003, University of Lille 1, France.
- 2009: **Training**
  - Transcriptomic study by microarrays (Institut Pasteur de Lille, France)
  - Fluorescence Microscopy (Institut de Recherche Interdisciplinaire, Villeneuve d’Ascq, France)
- 2007/2008: **Research trainee** « Genetic variability and *Pneumocystis* transmission in bats »,  
Laboratory of Parasitology, EA 3609, University of Lille 2, France.

## **Teaching Experience**

**Physiology courses** for undergraduate students in University of Lille 1, France (2010-2011)

## **Acquired Technics**

- **Molecular Biology:** DNA and RNA isolation, nested PCR, RT-PCR, DNA cloning.
- **Cellular Biology:** Cell culture of cell lines and primary cells including mouse microglia and human prostate cancer cells, Microbiological culture (*E. coli*,  $\beta$ -galactosidase assay), Transfection (lipofection and nucleofection), Immunocytochemistry and immunohistochemistry, H&E staining, Preparation of histologic sections (formalin fixed paraffin embedded tissues and frozen tissues), fluorescence microscopy, Duolink assay, FACS, ELISA assays, time lapse recordings using confocal microscope.
- **Biochemistry:** Isolation of proteins, co-immunoprecipitation and Western blot.
- **Cellular Physiology:** Calcium and sodium imaging (Fura-2AM and SBFI probes), Patch Clamp recording (whole-cell configuration), Two-photon imaging of mouse brain, measure of cell proliferation (MTT and BrdU incorporation assays), migration (Transwell and wound healing assays) and apoptosis (Hoechst and DNA ladder assays).
- **Animal experiments:** Surgery on mouse (*ex vivo* saliva secretion measurement, *in vivo* saliva and tear secretion measurement), DRG isolation from mouse and glia isolation from mouse pups, mouse behaviour experiment (prandial drinking assay, thermal preference assay).

## Publications list

- Derouiche, S., Takayama, Y., Murakami, M., and Tominaga, M. "TRPV4 heats ups ANO1-dependent exocrine gland fluid secretion" *FASEB J*, 2018 Apr; 32(4):1841-1854. doi:10.1096/fj.201700954R.
  
- Vancauwenberghe E, Noyer L, Derouiche S, Lemonnier L, Gosset P, Sadofsky LR, Mariot P, Warnier M, Bokhobza A, Slomianny C, Mauroy B, Bonnal JL, Dewailly E, Delcourt P, Allart L, Desruelles E, Prevarskaya N, Roudbaraki M. "Activation of mutated TRPA1 ion channel by resveratrol in human prostate cancer associated fibroblasts (CAF)" *Mol Carcinog*. 2017 Aug; 56(8):1851-1867. doi: 10.1002/mc.22642.
  
- Derouiche, S., Mariot, P., Warnier, M., Bidaux, G., Gosset, P., Mauroy, B., Bonnal, J.L., Slomianny, C., Delcourt, P., Prevarskaya, N. and Roudbaraki, M. "Activation of TRPA1 Channel by Antibacterial Agent Triclosan Induces VEGF Secretion in Human Prostate Cancer Stromal Cells" *Cancer Prev Res (Phila)*. 2017 Jan 17. doi: 10.1158/1940-6207.CAPR-16-0257.
  
- Vancauwenberghe E, Lallet-Daher H, Derouiche, S, Mariot P, Gosset P, Mauroy, B., Bonnal, J.L., Prevarskaya, N. and Roudbaraki, M. (2016) "Involvement of Ion Channels in Endothelin-1-induced Signalling in Human Prostate Cancer Cells" *J Cell Signal*; 1 (126), 2161-0495.1000126
  
- Borowiec AS, Sion B, Chalmel F, Rolland AD, Lemonnier L, De Clerck T, Bokhobza A, Derouiche S, Dewailly E, Slomianny C, Mauduit C, Benhamed M, Roudbaraki M, Jégou B, Prevarskaya N, and Bidaux G. (2016) "Cold/menthol TRPM8 channels initiate the cold shock response and protect germ cells from cold shock-induced oxidation" *FASEB J*; 30(9):3155-70. doi: 10.1096/fj.201600257R.
  
- Warnier, M., Roudbaraki, M., Derouiche, S., Delcourt, P., Bokhobza, A., Prevarskaya, N. and Mariot, P. (2015) "CACNA2D2 promotes tumorigenesis by stimulating cell proliferation and angiogenesis" *Oncogene*, 2015 January 26.
  
- González-González AE, Aliouat-Denis CM, Ramírez-Bárceñas JA, Demanche C, Pottier M, Carreto-Binaghi LE, Akbar H, Derouiche S, Chabé M, Aliouat el M, Dei-Cas E, Taylor ML. "Histoplasma capsulatum and Pneumocystis spp. co-infection in wild bats from Argentina, French Guyana, and Mexico" *BMC Microbiol*. 2014 Feb 5;14:23.
  
- Gackière F, Warnier M, Katsogiannou M, Derouiche S, Delcourt P, Dewailly E, Slomianny C, Humez S, Prevarskaya N, Roudbaraki M, Mariot P. "Functional coupling between large-conductance potassium channels and Cav3.2 voltage-dependent calcium channels participates in prostate cancer cell growth". *Biol Open*. 2013 Jul 26;2(9):941-51.

- Derouiche, S., Warnier, M., Mariot, P., Gosset, P., Mauroy, B., Bonal, J.L., Slomianny, C., Delcourt, P., Prevarskaya, N. and Roudbaraki, M. (2012) "Bisphenol A stimulates human prostate cancer cells migration via remodelling of calcium signalling". *SpringerPlus*. 2012 Dec;2(1):54
  
- Akbar, H, Pinçon, C, Aliouat, CM, Derouiche, S, Taylor, ML, Carreto-Binaghi, LE, Gonzalez-Gonzales, A, Courpon, A, Barriel, V, Guillot, J, Chabe, M, Suarez-Alvarez, R, Aliouat, EM, Dei-Cas, E & Demanche, C. "Characterizing *Pneumocystis* in the lungs of bats: understanding *Pneumocystis* Evolution and Spread of *Pneumocystis* organisms in mammal populations", *Appl Environ Microbiol*. 2012, 78(22):8122-36.
  
- Derouiche, S, Deville, M, Taylor, ML, Akbar, H, Guillot, J, Carreto-Binaghi, LE, Pottier, M, Aliouat, EM, Aliouat-Denis, CM, Dei-Cas, E & Demanche, C. "*Pneumocystis* diversity as a phylogeographic tool". *Mem Inst Oswaldo Cruz*, 2009, 104(1):112-117.