

# Alexandra Van Keymeulen

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## EDUCATION

- PhD in Sciences**, Faculty of Medicine, IRIBHM, ULB. 2000  
Title of the thesis : Synergistic regulation of proliferation by cAMP and permissive factors in thyroid cells.  
Advisers : Dr Pierre Roger and Professor Jacques Dumont.
- Post-graduate programme in pharmacology and pharmaceutical medicine.** 2000  
PHARMED, ULB.
- BSc in Chemistry**, ULB. 1996  
Obtained with the mention *La plus grand distinction*.

## SCIENTIFIC EXPERIENCE

- Research Associate FNRS** October 2007-  
Faculty of Medicine, ULB  
IRIBHM  
Mentor: Dr. Gilbert Vassart
- Post-doctoral Researcher** October 2006-October 2007  
Faculty of Medicine, ULB  
IRIBHM  
Mentor: Dr. Gilbert Vassart
- Post-doctoral Researcher** February 2002- September 2006  
Department of Cellular and Molecular Pharmacology,  
University of California, San Francisco  
Mentor: Dr. Henry Bourne
- Post-doctoral Researcher** 2001  
Faculty of Medicine, ULB  
IRIBHM  
Mentor: Dr. Carine Maenhaut
- PhD student** 1996-2000  
Faculty of Medicine, ULB  
IRIBHM  
Mentors : Dr Pierre Roger and Professor Jacques Dumont.

## TITLES

- Fellow of the *Fonds pour la Formation à la Recherche dans l'Industrie et dans l'Agriculture* (FRIA), 1996-2000
- Scientific Research Worker of the *Télévie* (FNRS), 2001
- Post-doctoral researcher of the *Fonds National de la Recherche Scientifique* (FNRS), 2002-2004
- Honorary post-doctoral researcher of the *Belgian American Educational Foundation* (BAEF), 2003
- Post-doctoral researcher of the *American Heart Association* (AHA), 2004-2006
- Honorary Scientific Research Worker of the *Fonds National de la Recherche Scientifique* (FNRS), 2007
- Fellow of a Return Grant of the *Politique Scientifique Fédérale* (Belspo), 2007-2008
- Research Associate of the *Fonds National de la Recherche Scientifique* (FNRS), 2007-..
- Member of the *American Society for Cell Biology*, 2003
- Member of the *International Society for Stem Cell Research*, 2005

## EXPERTISE

Cellular and Molecular biology.

Cell cycle, cancer, stem cells, chemotaxis and signaling pathways involved in these processes.

## PUBLICATIONS

Wong K, Van Keymeulen A, and Bourne HR. (2007). PDZRhoGEF and myosin II localize RhoA activity to the back of polarizing neutrophil-like cells. **J Cell Biol.** 179(6):1141-8.

Xu J, **Van Keymeulen A**, Wakida NM, Carlton P, Berns MW, and Bourne HR. (2007). Polarity reveals intrinsic cell chirality. **PNAS** 104(22):9296-300.

**Van Keymeulen A**, Wong K, Knight ZA, Govaerts C, Hahn K, Shokat KM, and Bourne HR. (2006). To stabilize neutrophil polarity, PIP3 and Cdc42 augment RhoA activity at the back as well as signals at the front. **J. Cell Biol.** 174, 437-445

Xu J, Wang F, **Van Keymeulen A (co-first author)**, Rentel M, and Bourne HR. (2005). Neutrophil microtubules suppress polarity and enhance directional migration. **PNAS** 102(19), 6884-9.

Xu J, Wang,F., **Van Keymeulen,A.**, Herzmark,P., Straight,A., Kelly,K., Takuwa,Y., Sugimoto,N., Mitchison,T., and Bourne,H.R. (2003). Divergent Signals and Cytoskeletal Assemblies Regulate Self-Organizing Polarity in Neutrophils. **Cell.** 114, 201-14.

Dremier,S., Coulonval,K., Perpete,S., Vandeput,F., Fortemaison,N., **Van Keymeulen,A.**, Deleu,S., Ledent,C., Clement,S., Schurmans,S., Dumont,J.E., Lamy,F., Roger,P.P., and Maenhaut,C. (2002). The role of cyclic AMP and its effect on protein kinase A in the mitogenic action of thyrotropin on the thyroid cell. **Ann. N. Y. Acad. Sci.** 968, 106-21.

Kimura,T., **Van Keymeulen,A.**, Golstein,J., Fusco,A., Dumont,J.E., and Roger,P.P. (2001). Regulation of thyroid cell proliferation by TSH and other factors: a critical evaluation of in vitro models. **Endocr. Rev.** 22, 631-656.

**Van Keymeulen,A.**, Deleu,S., Bartek,J., Dumont,J.E., and Roger,P.P. (2001). Respective roles of carbamylcholine and cyclic adenosine monophosphate in their synergistic regulation of cell cycle in thyroid primary cultures. **Endocrinology** 142, 1251-1259.

**Van Keymeulen,A.**, Dumont,J.E., and Roger,P.P. (2000). TSH induces insulin receptors that mediate insulin costimulation of growth in normal human thyroid cells. **Biochem. Biophys. Res. Commun.** 279, 202-207.

**Van Keymeulen,A.**, Roger,P.P., Dumont,J.E., and Dremier,S. (2000). TSH and cAMP do not signal mitogenesis through Ras activation. **Biochem. Biophys. Res. Commun.** 273, 154-158.

**Van Keymeulen,A.**, Bartek,J., Dumont,J.E., and Roger,P.P. (1999). Cyclin D3 accumulation and activity integrate and rank the comitogenic pathways of thyrotropin and insulin in thyrocytes in primary culture. **Oncogene** 18, 7351-7359.

Depoortere,F., **Van Keymeulen,A.(co-first author)**, Lukas,J., Costagliola,S., Bartkova,J., Dumont,J.E., Bartek,J., Roger,P.P., and Dremier,S. (1998). A requirement for cyclin D3-cyclin-dependent kinase (cdk)-4 assembly in the cyclic adenosine monophosphate-dependent proliferation of thyrocytes. **J. Cell Biol.** 140, 1427-1439.