

2-3 years postdoctoral researcher position

Role of caspases in chronic inflammatory bowel disease (IBD) and intestinal infectious models

Caspases play an essential role signalling during inflammation, cellular stress and apoptosis. We want to study the role of caspases in IBD disease and intestinal infectious model systems using transgenic mice (available in the lab). We are also interested in possible therapeutic implications of caspases in IBD by targeting them with caspase-inhibitors or modulators (e.g. allosteric and competitive inhibitors, CARD-only proteins). This work will be performed in close collaboration with Actogenix (www.actogenix.com), a new biotech company on our campus that has unique expertise in the use of *Lactococcus lactis* as a vector system for introducing therapeutic proteins. The work is also embedded in international collaborations (e.g. Prof. Gabriel Nunez, University of Michigan Medical School, sharing tools and expertise).

Specific background

- Senior or junior postdoctoral researcher
- Experience with in vivo disease models in mice, if possible in intestinal disease (infection and/or inflammation models)
- Good knowledge and skills in immunology
- Experience with wide variety of molecular biology methods

General profile

- Communicative and experienced in supervision of PhD students and technicians
- Excellent writing and reporting skills
- Good record of publications
- Willing to apply for national or international grants

We offer

- 2-3 years contract, with possibility of prolongation
- Scientific environment with a high critical mass, core facilities available (SPF animal house, transgenic facility, protein purification tissue culture, FACS analysis, mass spectrometry, transcriptomics, bioinformatics, etc.)
- Competitive salary

Head of the Research Unit

Prof. Peter Vandenabeele (Peter.Vandenabeele@dmb.ugent.be)

Molecular Signalling and Cell Death Unit

Department of Molecular Biomedical Research (www.dmb.ugent.be)

Flanders Interuniversity Institute for Biotechnology (www.vib.be)

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Where will you work?

The research unit

The unit Molecular Signalling and Cell Death is headed by Prof. Peter Vandenameele and has a long-standing research tradition in cell death research. The group of Peter Vandenameele is divided in two subgroups. One subgroup of 11 members working on signalling in cellular stress and cell death (1 group leader, 2 postdocs, 7 PhD students, 1 technician) and another subgroup of 8 members working on skin biology headed by Dr. Wim Declercq (1 project leader, 2 postdocs, 4 PhD students, 1,2 technician) (see our website www.dnbr.ugent.be, “VIB-UGent research units”, “Vandenameele”).

The research of the “Vandenameele lab” is embedded in national and international research programs (FP6 Marie Curie “DeathTrain”, FP6 Integrated project “Epistem” (www.epistem.eu), FP6 Marie Curie Large Conferences “Europtosis”, Secretariat of the European Cell Death Organisation – ECDO – (www.ecdo.eu). Current topics in the research group are: biology of caspase-1, -7, -2 on three main levels biochemistry (identification of substrates), cell biology (signal transduction), transgenes (conditional knockout of caspases); molecular mechanisms of necrotic cell death (subcellular events during necrotic cell death, identification of necrosome complex, signal transduction, role of RIP1 kinase, identification of substrates); autophagic cell death and interaction with apoptosis; intercellular communication between dying cells and macrophages; terminal differentiation of keratinocytes as special form of cell death; skin biology of RIP4 kinase and caspase-14.

The department and the institute

The Molecular Signalling and Cell Death Unit (MSCDU) is part of the Department of Molecular Biomedical Research (DMBR) (www.dnbr.ugent.be) (headed by Prof. Frans Van Roy) that belongs to the Ghent University and the VIB (Flanders Interuniversity Institute for Biotechnology). DMBR focuses on cancer- and inflammation-related research using molecular cell biological, biochemical, biotechnological and transgenic animal approaches. The department has a high critical mass of very diverse research projects (fundamental, translational, applied, technology development) and of core facilities (TC, protein purification, FACS analysis, bioinformatics, routine mass spectrometry). The department is part of the VIB, a scientific research institute (www.vib.be) consisting of about 60 research teams, active in the frontline of life sciences. VIB studies the functioning of the human body, plants and micro-organisms using advanced technologies, which are well-supported by core facilities. VIB joins the forces of about 900 scientists and technologists from universities in Ghent, Antwerp, Louvain and Brussels in one single institute.

The city

Ghent is middle sized (230.000 inhabitants) historical city (www.gent.be) with a very vividly cultural scene. It is good living in Ghent with its beautiful squares, buildings, friendly pubs and excellent restaurants. The department is situated in a technology park about 5 km from the city centre with a high concentration of successful biotech companies. The lab can be reached by car, very regular public transport, by bike on quiet roads along the river (if you make a small detour).