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Identification of new branches in the cholesterol pathway: new perspectives for cancer stratification and treatment

Dr. Marc Poirot

Cholesterol Metabolism and Therapeutic Innovations
Cancer Research Center of Toulouse
University of Toulouse III

VIB

Fri June 8 ; 15:00

Centenary Auditorium Rommelaere

Host: Karolien De Bosscher

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Marc Poirot is a first class research director (DR1) at the Institut National de la Santé et de la Recherche Médicale (INSERM). He heads with Sandrine Silvente-Poirot the team "Cholesterol metabolism and therapeutic innovations" at the Cancer Research Center of Toulouse (Toulouse, France). He was trained in organic chemistry/biochemistry before receiving a Ph.D. in Chemical Biology (1991) from the University of Toulouse (France), and was tenured from INSERM as research scientist the year after. He founded the Biotech company "Affichem" to develop several lead compounds generated in his team for medical applications. He authored more than hundred publications and patents.

His research has initially focused on studying the molecular pharmacology of the anti-tumor drug tamoxifen, which is one of the main drug used for the treatment of estrogen receptor positive breast cancers. These studies led his team to identify a new metabolic branch in the cholesterol pathway centered on cholesterol epoxides (CE). They discovered that a CE was metabolized in mammalian tissues into a steroidal alkaloid they named dendrogenin A. Importantly, they showed that Dendrogenin A was a tumor suppressor metabolite. They next showed that CE were differentially metabolized in cancers cells and tumors to generate a tumor promoter they named OCDO. They are currently studying the cholesterol metabolic pathway deregulations in cancers.

Dr. Poirot is a member of the European Network on Oxysterol Research (ENOR:http://oxysterols.com/)

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Selected Publications:

Segala G, et al. (2017) Dendrogenin A drives liver-X-receptor to trigger lethal autophagy in cancers. *Nature commun*, 8(1):1903, DOI: 10.1038/s41467-017-01948-9

Voisin M, et al . (2017) Identification of a tumor-promoter cholesterol metabolite in human breast cancers acting through the glucocorticoid receptor. *Proc Natl Acad Sci USA*, 114(44) E9346–E9355, DOI: 10.1073/pnas.1707965114

Silvente-Poirot S & Poirot M. (2014) Cholesterol and cancer, In the balance, *Science*, 343:1445-6

de Medina P, et al. (2013) Dendrogenin A arises from cholesterol and histamine metabolism and shows cell differentiation and anti-tumour properties. *Nature commun*. 4:1840

de Medina P, et al. (2010) Identification and pharmacological characterization of cholesterol-5,6-epoxide hydrolase as a target for tamoxifen and AEBS ligands. *Proc Natl Acad Sci U S A*, 107(30):13520-5

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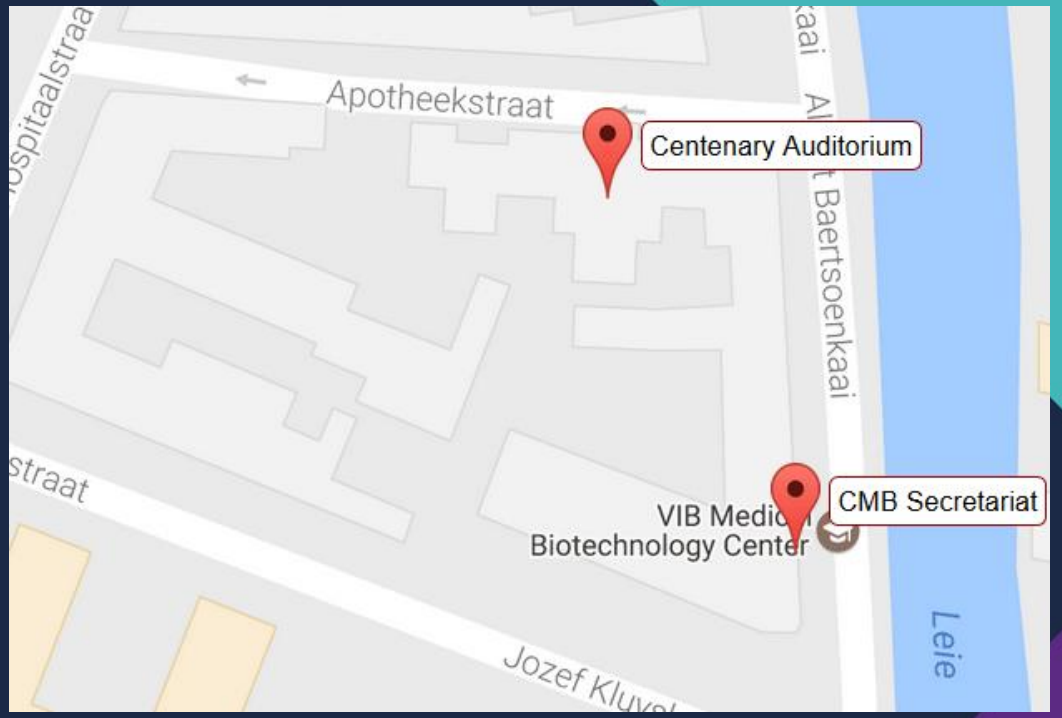

Centenary Auditorium
The "Centenary Auditorium" is the common name for an auditorium at the UGent Rommelaere complex.

There is no public access to this auditorium. Invitees or visitors must announce at the secretariat:
Albert Baertsoenkaai 3, 9000 Gent.

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