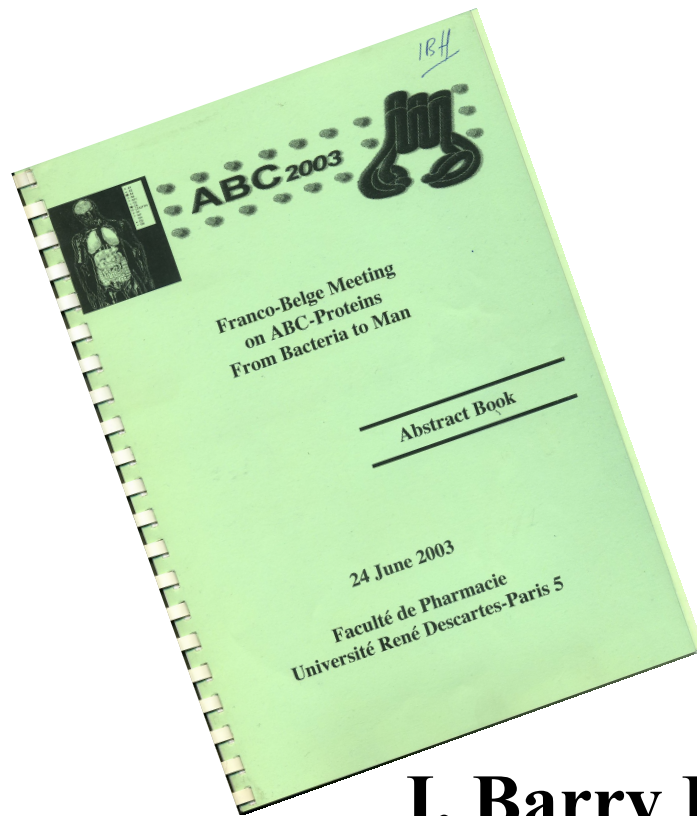


The ABC superfamily and a simple and successful way to organize a meeting to discuss them

10th Anniversary of the Franco-Belge ABC meeting in Brussels



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Some History of the ABC Transporter Super Family

- **1982.** Cloning and sequencing the first family members, multi-subunit bacterial **amino acid** and **sugar importers**, like the ATP-binding proteins (NBDs) HisP and MalK.

Giovanna Ames (Chris Higgins) and Hiroshi Nikaido.

- **1984 to 1986.** The bacterial family expands, notably including **HlyB the first exporter**, a single protein with both ATP-binding and membrane domains for translocation of large proteins.

Holland lab and Rod Welch group

Published in Nature in October 1986; Higgins CF, Hiles ID, Salmond GPC, Gill DR, Downie JA, Evans IJ, Holland IB *et al.*

“A family of related ATP-binding subunits coupled to many distinct biological processes in bacteria”

This paper originated the concept of ATP-binding cassette proteins, the ABC transporters.

- **1986. December.** **Pgp** identified as the **first mammalian ABC transporter** (exporter) by Victor Ling's group.

In Nature; Gerlach JH, Endicott JA, Juranka PF, Henderson G, Sarangi F, Deuchars KL, Ling V

“Homology between P-glycoprotein and a bacterial haemolysin transport protein suggests a model for multidrug resistance”.

This formalized the notion of the ABC transporter super family energized by a highly conserved ATPase.

- **1989-1990.** Chris Higgins (**Hyde *et al.*, in Nature**) noted now **30 distinct members** of the superfamily identified including the newly added **CFTR**.

- **2003.** Approximately **2100 ABC entries** in PubMed

- **2012.** More than **28000 entries** in PubMed; likely over a **1000 HlyB-like protein genes** sequenced

10 Years of the Franco-Belge Series

The 'Plan' and How it started

Summer-Spring 2002, I met Giovanna and André at the now famous TABAC close to the Saclay campus. We developed the idea, now of course expanded as a France-Belgium meeting, with the three of us forming the nucleus of the first scientific Committee.

December 2002 I surveyed the possible interest in France

January 24 2003, at least 25 French groups had agreed to the concept.

January 2003, Jean-Michel Scherrmann proposed to host the meetings in the centre of Paris !! – Faculté de Pharmacie, Université Paris 5. We all agreed to schedule the first meeting for June 24, 2003.

May 17 approximately, one of Jean-Michel's labs was destroyed by fire.

June 24, first meeting still goes ahead ! With more than 90 participants, 12 young scientists giving short talks.

In 2007, Attilio took over full responsibility for organizing the meetings in liaison with Jean-Michel and the rest of the scientific Committee. Attilio also introduced the website and greatly simplified the handling of abstracts etc.

October 2012, 10th meeting organized by Françoise Van Bambeke in Brussels



2002 - 2012



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The Franco-Belge ABC meeting :
a model for a minimal cost, with minimal administration,
promoting scientific interactions and training of young scientists

No granting Agency involved, no reports to write

Essentially no administrative costs (invited speakers normally not paid)

No registration fee

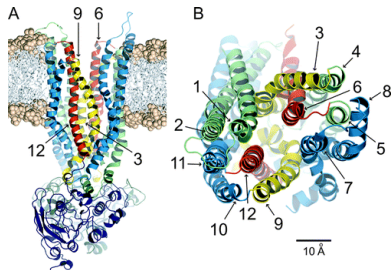
Great location in Paris. A friendly atmosphere fostering free discussion and provides young scientists the opportunity to present their work to an expert audience

**A one day meeting of concentrated science is easy to organize
and to attend – no overnight stay required for most (but staying in Paris is no pain !)**

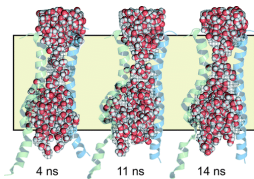
**Of course success requires a great audience and
people like Attilio, Françoise and Jean-Michel giving their precious time**

Distinctive Mechanisms of Translocation Displayed by Different ABC Exporters ?

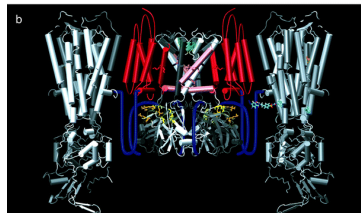
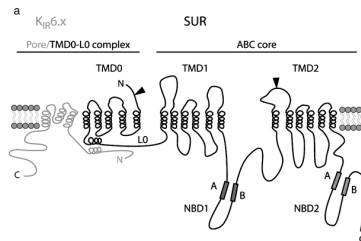
CFTR (Model)



Y Norimatsu *et al.*, 2012

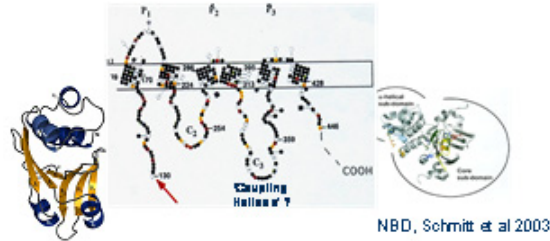


SUR1::Kir (Model)



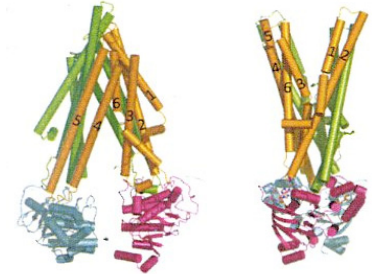
J Bryan *et al.*, 2007

HlyB (partial structure)



**L Schmitt & colleagues, 2003, 2012
IB Holland & colleagues 2003**

Pgp atomic structure



From K Linton *et al.*, 2011