

Other opinions:

Mihai Jalba

<http://www.angelfire.com/ny4/tecuci/Agre.html>

Who Discovered Aquaporin for the First Time ?

Dear Professor Agre:

Professor Gheorghe Benga from the “Iuliu Hatieganu” University of Cluj, Romania, discovered in 1986 that binding of p-(chloromercuri)benzenesulfonate to the 4.5 band protein was correlated with the inhibition of water transport measured by a NMR technique. He concluded that his results indicate that band 4.5 protein is playing a role in water transport and could be associated with water channels(1). It turns out that band 4.5 protein is, actually, a glycosylated form of aquaporin. According to you, it is part of a tetrameric structure, but this glycosylated CHIP monomer behaves as an independent water pore (2).

In 1988 you discovered CHIP, a 28,000 kDa protein with its HMW-28 kDa glycosylated component, that “bears a strong resemblance to protein 4.5, a group of membrane constituents most of which are poorly understood”(3) and in 1991 you **re-discovered** the glycosylated protein glyCHIP(4), *both being described as band 4.5 by Benga in 1986*, but **you forgot to mention his name on both occasions**. At the same time, Benga did not write to the editor and I would like to dissipate a confusion that is persisting in many minds even now.

In conclusion, Benga was the first to detect aquaporin in a glycosylated form and to realize its role in water transport, while you described its basic 28,000 kDa monomer, isolated it and described in detail its structure, related by Parker(5) to the water transport property, first mentioned by Benga.

My question is shaped this way:

--Why in your Nobel lecture(5) you saw Benga only as a pioneer in the water transport field ? Who is the first and real discoverer of the water channel protein called now aquaporin: Benga, who detected it “in situ” for the first time, or Peter Agre, who isolated it and described in detail its structure ?

Sincerely,

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REFERENCES

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2. P. Agre, G. M. Preston, B. L. Smith, J. S. Jung, S. Raina, C. Moon, W. B. Guggino, and S. Nielsen. Aquaporin CHIP: the archetypal molecular water channel. *Am J Physiol Renal Physiol* 265: F463-F476, 1993
3. Denker BM, Smith BL, Kuhaida FP, Agre P. Identification, purification and partial characterization of a novel Mv 28,000 integral membrane protein from erythrocytes and renal tubules. *J. Biol. Chem.* 1988, 263:15634-15642.
4. Preston GM, Agre P. Isolation of the cDNA for erythrocyte integral membrane protein of 28 kilodaltons: member of an ancient channel family. *Proc Natl Acad Sci U S A.* 1991 Dec 15;88(24):11110-4.
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Dear Editor:

I assisted to Professor Agre's presentation about the discovery of aquaporin at the 101th International Conference of the American Thoracic Society on May 23, 2005 where I tried to ask him a question, but, when I started to speak I found that the microphones were disconnected. I try to shape my question now.

The history of science is full of controversies concerning the priority over important discoveries. The Nobel prizes 2003 in Medicine and Chemistry are not an exception, with Damadian and Benga claiming priority.

I think that openness is a must in discussing controversial issues. Giving me an opportunity to obtain an answer to my question in your internationally renowned journal, which published a landmark paper in 1992 on the issue, may be a real benefit for the history of science.

For my biographical information, you may consult the volumes "Who's who in Medicine and HealthCare 2004-2005" and "Who's who in America 2005" and Pubmed. Thank you for giving me the opportunity to submit this letter to "Science" and I am looking forward to being published.

Sincerely,

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