## **LETTER**



## Geoffrey Burnstock (1929–2020): the finest pharmacologist and an inspiring scientist

Rafael Franco 1,2

Received: 12 January 2021 / Accepted: 21 January 2021 / Published online: 2 February 2021 © The Author(s), under exclusive licence to Springer Nature B.V. part of Springer Nature 2021

I consider Geoff Burnstock to have been an inspiring scientist and a good man. I spent three months in autumn 1985 in his lab in the Department of Anatomy and Embryology at University College of London. He was so generous to allow me to visit, having been a postdoc for only 3 months. He did not get much from my stay, while I received so much that I needed to pursue a scientific career. I had applied for funding to work as a postdoc in the USA, but in retrospect, I was fortunate that I was not awarded the fellowship, thus ending up in London. I was young, I did not know what a G protein—coupled receptor was and I knew little about nerves. All I knew was that Prof. Burnstock (*Prof*) was my hero. Strange, as I have had no more heroes in my life.

The benefits of the 3-month stay can be easily summarized: I learnt what nerves are, the meaning of "peripheral" and "autonomic", the need for cell surface receptors and, last, but not least, that one could follow a scientific career in Spain devoted to the study of the molecular aspects of P1 (adenosine) receptors. Prof knowing that I was a chemist, first suggested that I design an ATPase inhibitor, but I was not the right person to do that; I thought that even with the best inhibitor for a given ATPase, there is more than one enzyme that can degrade the nucleotide as soon as it appears.

Realising that I could not fulfill his wish, he continued being generous and allowed me to work with intestinal smooth muscle preparations. This led me to publishing a paper with him,

Rafael Franco rfranco@ub.edu

"Degradation of adenosine by extracellular adenosine deaminase in the rat duodenum", (Franco et al., 1988, Gen. Pharmacol. 19, 679–681), which was my first paper on adenosine receptors. Prof's papers were always very well written and through preparing this paper with him, I learned how to write clearly and concisely. One final point is that there is a huge amount of adenosine deaminase in the gut mucosa and the reason why remains a mystery. Work in my lab suggests that its function there is not catalytic, but that it is a growth-like factor.

For years, my hope was to return to the UK and especially to London. I agree with Prof in that it is the city in the world with more charms and temptations, especially in terms of culture. Prof enjoyed the cultural side of the city, as I did. What is almost impossible is to raise a hobby to the category of art and Prof did it. His carving work on wood was superb. Prof was a "renaissance character" with the added value that scientific tools are now more advanced than in fifteenth and sixteenth centuries. I wonder how many scientists can be considered renaissance characters today.

After 1985, we met only a few times and we last interacted by e-mail only a few months ago when he acted to support my lab, yet since 1985, Prof has inspired me and the work in my laboratory. He still is my main source of inspiration. *Mil gracias*.

## **Declarations**

**Ethical approval** This article does not contain any studies with human participants or animals performed by any of the authors.

**Conflicts of interest** Rafael Franco declares that he has no conflict of interest.

**Publisher's note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Department of Biochemistry and Molecular Biomedicine, Facultat de Biologia, University of Barcelona, Diagonal 643, 08028 Barcelona, Spain

Centro de Investigación en Red, Enfermedades Neurodegenerativas (CiberNed), Carlos iii National Health Institute, Madrid, Spain