

The cell boundary theorem: a simple law of the control of cytosolic calcium concentration

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Editors,

It was with interest that I read the provocative paper published in your journal: “The Cell Boundary Theorem: A Simple Law of the Control of Cytosolic Calcium Concentration” [1]. The purpose of this letter is to point out that the concept described in [1] was articulated 18 years earlier in one of my papers [2]. While it was mentioned by Rios [1] that the concept had been described before in qualitative terms, to my knowledge, Friel and Tsien [2] was the first to state the concept in mathematical terms, thereby making it amenable to rigorous consideration.

Given that the paper by Rios [1] is dedicated to Professor Makoto Endo on the 40th anniversary of the

discovery of CICR, it seems especially appropriate to cite the original study describing the ‘The Cell Boundary Theorem’.

References

1. Rios E (2010) The cell boundary theorem: a simple law of the control of cytosolic calcium concentration. *J Physiol Sci* 60:81–84
2. Friel DD, Tsien RW (1992). A caffeine- and ryanodine-sensitive Ca^{2+} store in bullfrog sympathetic neurones modulates effects of Ca^{2+} entry on $[\text{Ca}^{2+}]_i$. *J Physiol* 450:217–246 (see section entitled “Constrained effects of an intracellular compartment on stimulus-evoked changes in $[\text{Ca}^{2+}]_i$ ” on p 235)

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