Germinal centres seen through the mathematical eye: B-cell models on the catwalk.

Meyer-Hermann M, Figge MT, Toellner KM (2009) Germinal centres seen through the mathematical eye: B-cell models on the catwalk. *Trends Immunol* 30(4), 157-164.

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Abstract

Germinal centres are receiving renewed attention following recent intravital multi-photon imaging studies. These data have shed new light on longstanding questions about the spatial organisation of germinal centres, B-cell migration, selection and differentiation. Mathematical models have proven invaluable in the analysis of intravital motility data, and have predicted novel B-cell selection mechanisms that are now supported by experimental findings. We argue that mathematical modelling adds a different vantage point to experimental data and provides a quantitative and systematic analysis of hypotheses and theories in immunology. Furthermore, the well-characterised nature of the germinal centre provides an excellent proving ground for mathematical modelling.

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doi: 10.1016/j.it.2009.01.005

PMID: 19282244