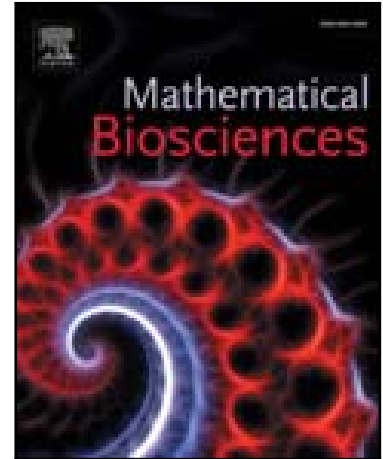


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A structural methodology for modeling immune-tumor interactions including pro- and anti-tumor factors for clinical applications



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Highlights:

- Mathematical models are beneficial in the studies of immunology and immunotherapy
- by overcoming various challenges such as limited experimental data, interpretation of
- complicated immune-tumor interactions and high laboratory costs.
- The structure of mathematical models, interconnecting immune cells and cytokines
- with tumor cells populations as variables, have been selected only on the basis of
- immunology facts in previous studies.
- A structural methodology is proposed to efficiently choose the mathematical structure
- to study immune-tumor interactions considering reaction pathways, available
- measurements along with immunological facts.
- The proposed methodology ends in a simple nonlinear compartment model which
 - outperforms other models with more complicated structures.

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