

Multiscale Modeling of Multiple Myeloma Using Biocellion Framework

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Our overall goal is to create multiscale models using the Biocellion platform that predict outcomes at cellular resolution for multiple myeloma when treated using pharmaceutical products whose mechanisms of action (MOA) have been well studied and for which quantitative relationships, preclinical and clinical data are publicly available. Here, we present our early approach and preliminary results on a 3d model of the bone marrow microenvironment that is based on previously published mathematical models and suitable for the systematic characterization of optimal intervention strategies (e.g., combination therapies). Through refinement and integration of additional microenvironment component models, we expect the extensible Biocellion model we develop to become both more broadly applicable and increasingly predictive.