

MS1-3: A computational method for investigating the connections between tumor associated macrophages' polarization and iron metabolism

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The link between iron and cancer is still being unraveled. In several breast cancers, it has been observed that malignant cells have a high intracellular iron content. It is believed that part of the ability of cancer cells to acquire and maintain iron comes from cooperation with macrophages, the major type of phagocytic immune cells. Interestingly, it has been observed that macrophages can serve as iron donors or as iron sequestrators, depending on the different signals they are exposed to. In order to unravel the plasticity of the iron handling of macrophages, we are developing a generalized Boolean model for the intracellular components which decide the iron phenotype of macrophages. We will present our approach and some preliminary results from our model.