

In our laboratory (van de Rijn laboratory at Stanford University) we study sarcomas with a focus on LMS, GIST and desmoid tumors. In the past years we have analyzed the role of macrophages (a type of cells that is part of the immune system) in leiomyosarcoma. We initially found that the presence of macrophages influences the clinical behavior of LMS. As part of a project funded by NLMSF we next focused on the role CSF1, a powerful attractant for macrophages. We could determine that in some cases, CSF1 is secreted by the LMS tumor cells, leading to attraction of macrophages into LMS tumors. The coordinate expression of CSF and 3 macrophage genes was found to correlate with clinical outcome. Combined these results suggest that treatment with inhibitors for CSF1 could potentially benefit a subset of patients. However, additional studies on cell lines are needed to verify this possibility. The results of these studies were published in two papers: “Prognostic significance of macrophage infiltration in leiomyosarcomas. *Clinical Cancer Research*, 2008 **14**:1423-30” and “Coordinate expression of Colony Stimulating Factor-1 (CSF1) and CSF1 related proteins is associated with poor prognosis in gynecologic and non-gynecologic leiomyosarcoma. *American Journal of Pathology*, May 2009 Epub ahead of print.”