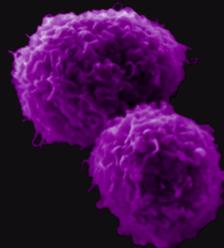
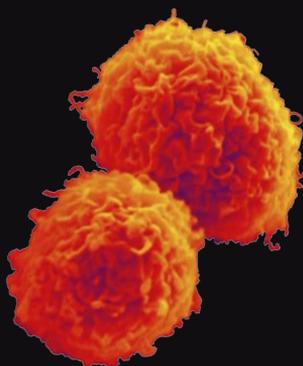


Antigen interaction with B cells in two proliferative disorders

– CLL and MGUS

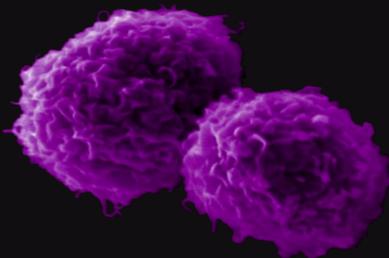
EVA HELLQVIST



This thesis is composed of two parts with focus on B cell interaction with antigen in two B cell proliferative disorders: B cell chronic lymphocytic leukemia (CLL) and polyneuropathy with associated monoclonal gammopathy of undetermined significance (PN-MGUS). In the first part, we investigate antigen specificity of CLL cells and in the second part we study the antigen presenting capacity of myelin protein zero specific PN-MGUS B cells.

The exact cell-of-origin in CLL is still unknown, but neoplastic CLL cells are generally thought to be derived from antigen experienced B cells. In groups of patients expressing B cell receptors with highly homologous antigen binding sites, cells have most likely undergone selection by a common antigen at some point during the leukemogenesis. In this thesis, novel CLL antigens are presented and the significance of these antigens in CLL development and progression is discussed. The question how antigen specificity of CLL cells is related to the CLL cell-of-origin is also addressed.

In contrast to CLL, the antigen specificity of B cells in PN-MGUS is well characterized. Pathogenic autoantibodies produced by an expanding B cell clone bind myelin proteins and PN-MGUS is generally regarded as an autoimmune disorder. The role of T cells in this condition is less well defined, but involvement of activated T cells has been suggested. Results regarding antigen presenting capacity of a myelin specific PN-MGUS B cell clone and its ability to activate T cells are presented in the second part of this thesis. Finally, the implications of this T cell activation on nerve demyelination and degeneration is discussed.



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