Abstract

Hematopoiesis is the process of origin and maintenance of blood cells and their progenitors. The term hematopoietic stem cell (HSC) is used to describe a cell which has the potential to divide into one or more type of blood cells. These HSCs take care of our entire hematopoietic requirement by giving rise to new cell types as and when required during development or during insults. During the last decade work on Drosophila hematopoiesis has established it as a great model system to understand the biology of hemocytes. Since there is a high degree of conservation in hematopoietic development with mammals, this model system is an obvious choice in understanding HSC biology too. Though there are similarities reported in this biphasic process what is lacking is our understanding of hematopoiesis in adult fruit fly. The mammals are known to harbor the HSCs in the form of adult stem cells in their bone marrow. But no such analogous structure maintaining the adult HSCs in Drosophila is known till date. Here in this work, we intended to investigate this aspect and on doing so discovered blood cell clusters present in the abdominal area of the fly. My work was focussed in molecular characterization of the adult cluster in fruit fly.