# New insight into the genetics of how blood cells form

Research published online in Blood, the Journal of the American Society of Hematology, presents an unprecedented look at five unique blood cells in the human body, pinpointing the location of key genetic regulators in these cells and providing a new tool that may help scientists to identify how blood cells form and shed light on the etiology of blood diseases.

Work published today in Blood is a subset of a much larger catalog of genetic information about nearly 1,000 human cells and tissues unveiled today from the international research consortium “Functional Annotation of the Mamaliam Genome” (FANTOM, with this latest installment referred to as FANTOM5). Two flagship manuscripts describing pivotal observations from the expansive genome mapping project were also published online in Nature; companion work is also being published in BMC Genomics.

Blood comprises three main types of cells, erythrocytes (red blood cells), leukocytes (white blood cells), and thrombocytes (platelets), all of which arise from blood stem cells. While the origin of these cells is known, the gene expression changes that take place in the stem cell to dictate whether it becomes red cell, white cell, or platelet – or even develops a genetic mutation – are not yet fully understood.

**Read the full, original story: Research pinpoints location of key genetic regulators in blood cells**