

Blood formation and maturation

[Science](#), [Biology](#)



Formation and Maturation of Blood Erythrocytes and Leukocytes Formation and Maturation of Blood Erythrocytes and Leukocytes

Red blood cells or rather the erythrocytes get produced through a process called erythropoiesis through which they mature in about seven days (Boundless 1, 2014). Circulating red blood cells get derived from stem cells known as pluripotential hemopoietic occurring entirely in the red bone marrow (Leach, 2015). The synthesis process instigates on the initial day with the development of the proerythroblast that is followed on the second day with the formation of the hemopoietic as the nucleus condense. The third day the polychromatophilic erythroblast occurs where the cells get smaller as the nucleus shrink and the hemopoietic gets further produced (Leach, 2015).

On the fourth day, normoblast is formed containing about thirty-five percent of the hemopoietic of a full red blood cell, and mostly the nucleus disappears at this point. From the fifth to the seventh day, the reticulocyte matures and the synthesis of the hemopoietic is increased. The outline of the red blood cell gets attained at this point, and the cells still contain the ribonucleic acid. On the eighth day, the red blood cell is mature without the ribonucleic acid, and no synthesise of the hemopoietic (Leach, 2015).

Leukocytes are separated into two types the granulocytes and the agranulocytes (Leach, 2015). These types are further categorized into the lymphocytes, monocytes, basophils, neutrophils, and eosinophil. Leukocytes with the exception of the lymphocytes mature in the bone marrow (Leach, 2015). In early development like the case of embryos, white blood cells are formed in the yolk sac and later on in the spleen and lymph nodes. After the

development of the bone marrow, most of the white blood cells are formed in it. However, maturation gets left to take place in secondary lymphoid organs such as the spleen and the lymph nodes (Boundless 2, 2015).

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