

# Hematopoiesis

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Occurs in red bone marrow of sternum, scapulae, and pelvis; as well as other places.

- Hematopoietic stem cells differentiate into lymphoid stem cells or myeloid stem cells
- **Lymphoid Stem Cell** differentiates into
  - T cells organize long-term immunity to pathogens
  - B cells make antibodies to recognized pathogens
- **Myeloid stem cells** differentiate into
  - Eosinophils, Basophils, and Neutrophils
  - Monocytes
  - Megakaryocytes (break apart into platelets)
  - Erythroblasts develop into erythrocytes over the course of 2-3 weeks
    - ✦ Normoblasts fill up with Hemoglobin
    - ✦ Reticulocytes have lost their nucleus and begin circulating
    - ✦ Erythrocytes have lost their ribosomes