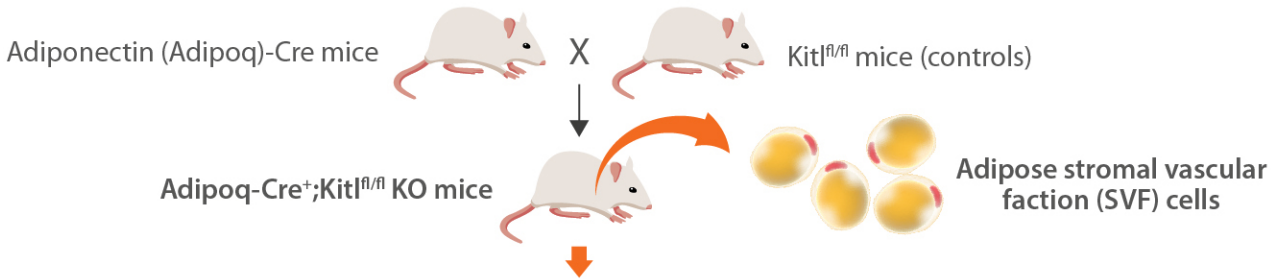
Marrow adipose tissue provides stem cell factor essentially for steady-state and skewed hematopoiesis upon metabolic stresses

Generation of fat-specific SCF knockout (KO) mice

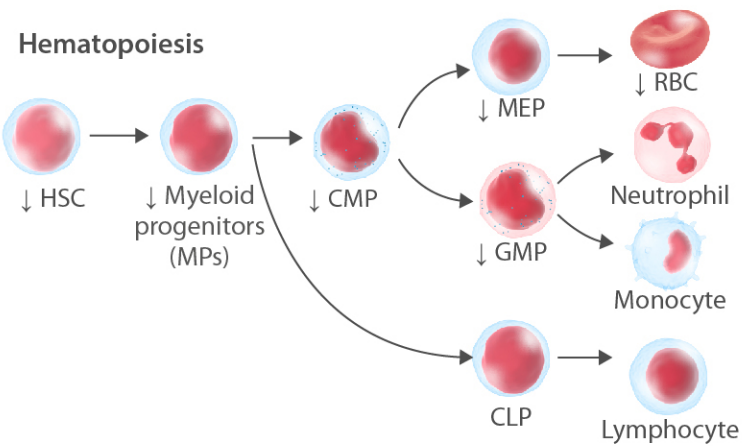


- Deletion of ***Kitl*** **gene** and reduction of ***Kitl*** **mRNA** levels
- Reduction of **UCP1 protein** levels

- Nerve-activated adaptive thermogenesis assessment: No variation in levels of ***Ucp1*** **mRNA** or **UCP1 protein** upon treatment with a β3-adrenoceptor agonist

- **SCF secreted by adipocytes is essential for UCP1 expression in vitro but dispensable for energy metabolism in vivo**

Quantification of hematopoietic stem and progenitor cells (HSPCs) in the bone marrow of Adipoq-Cre^{+};Kitl$^{fl/fl}$ KO mice



- Reduced marrow cellularity
- No functional decline of HSPCs

- **Adipocyte-derived niche factor SCF is essential for the maintenance of hematopoietic stem and myeloid progenitor cells**

Zhang *et al.*, Haematologica, 2019