

Myocardial infarction accelerates atherosclerosis

Dutta et al.

NATURE (2012)

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16.04.2013

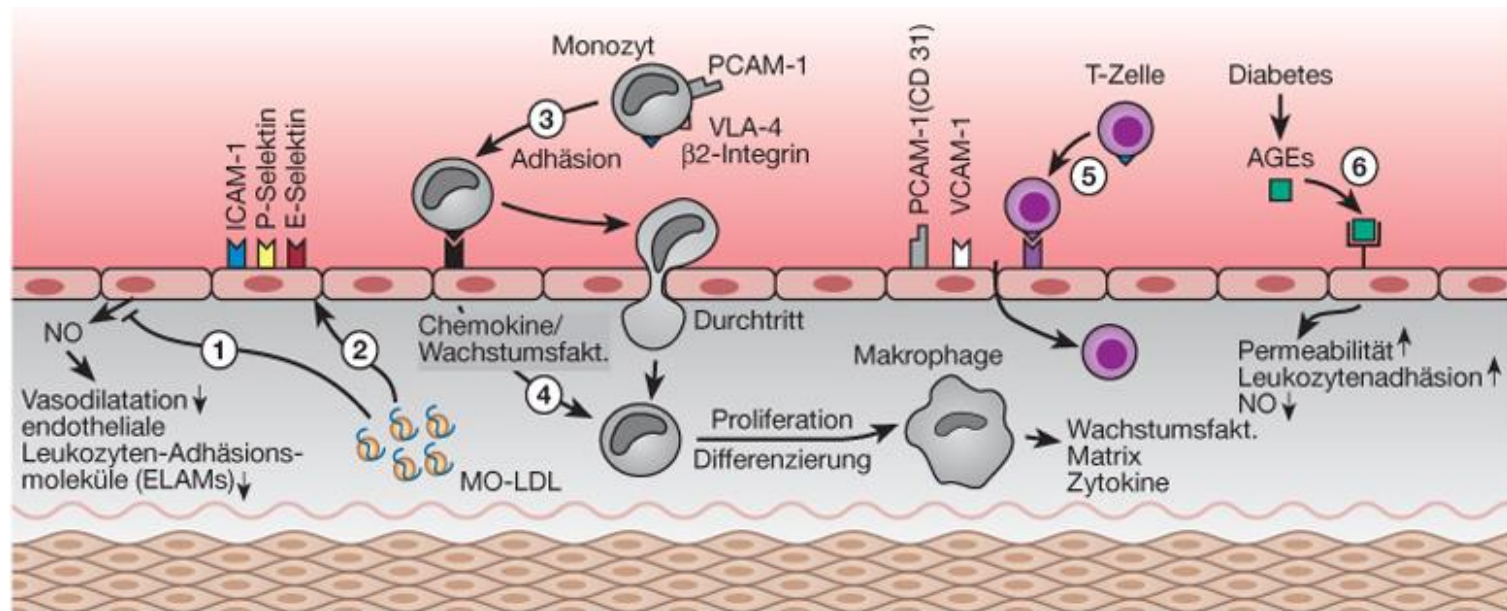
Background

Myocardial infarction

- 12 million deaths annually worldwide
- Survival rate after first MCI: 90%
- 54% myocardial ischemia-rate within 1 year
- Leukocytosis negative predictor

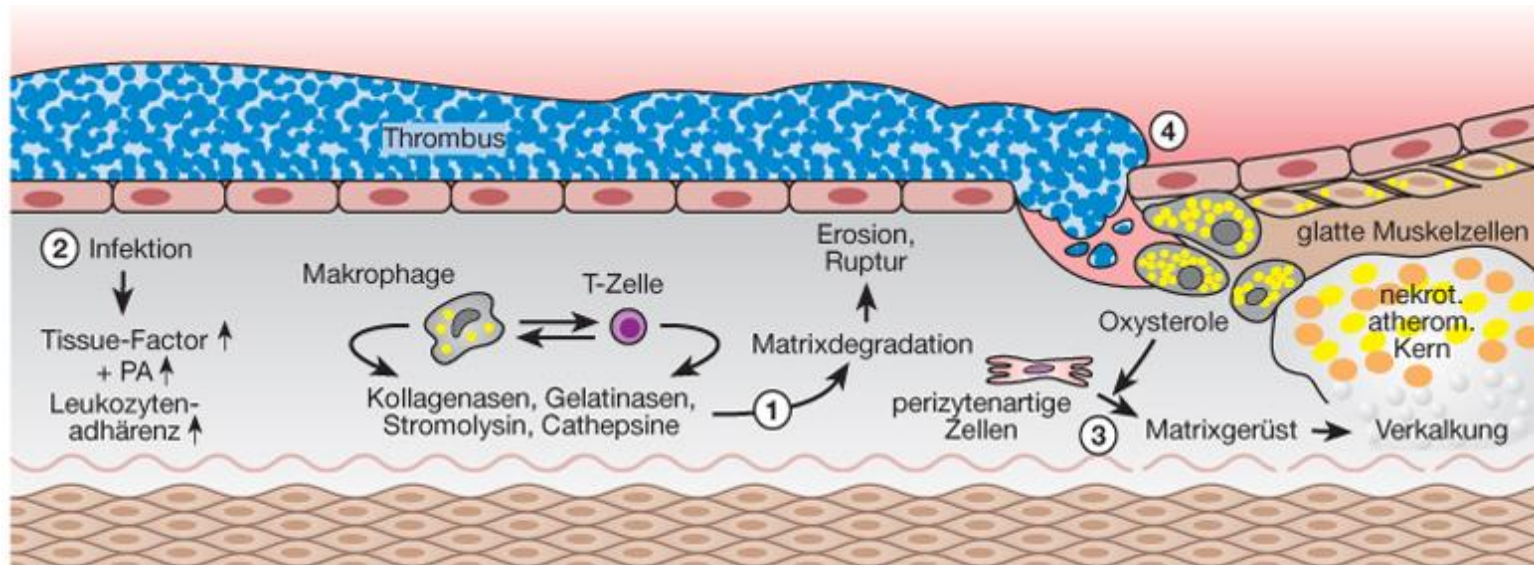
Background

Atherosclerosis



Background

Atherosclerosis



Hypothesis

Acute MCI accelerates atherosclerosis

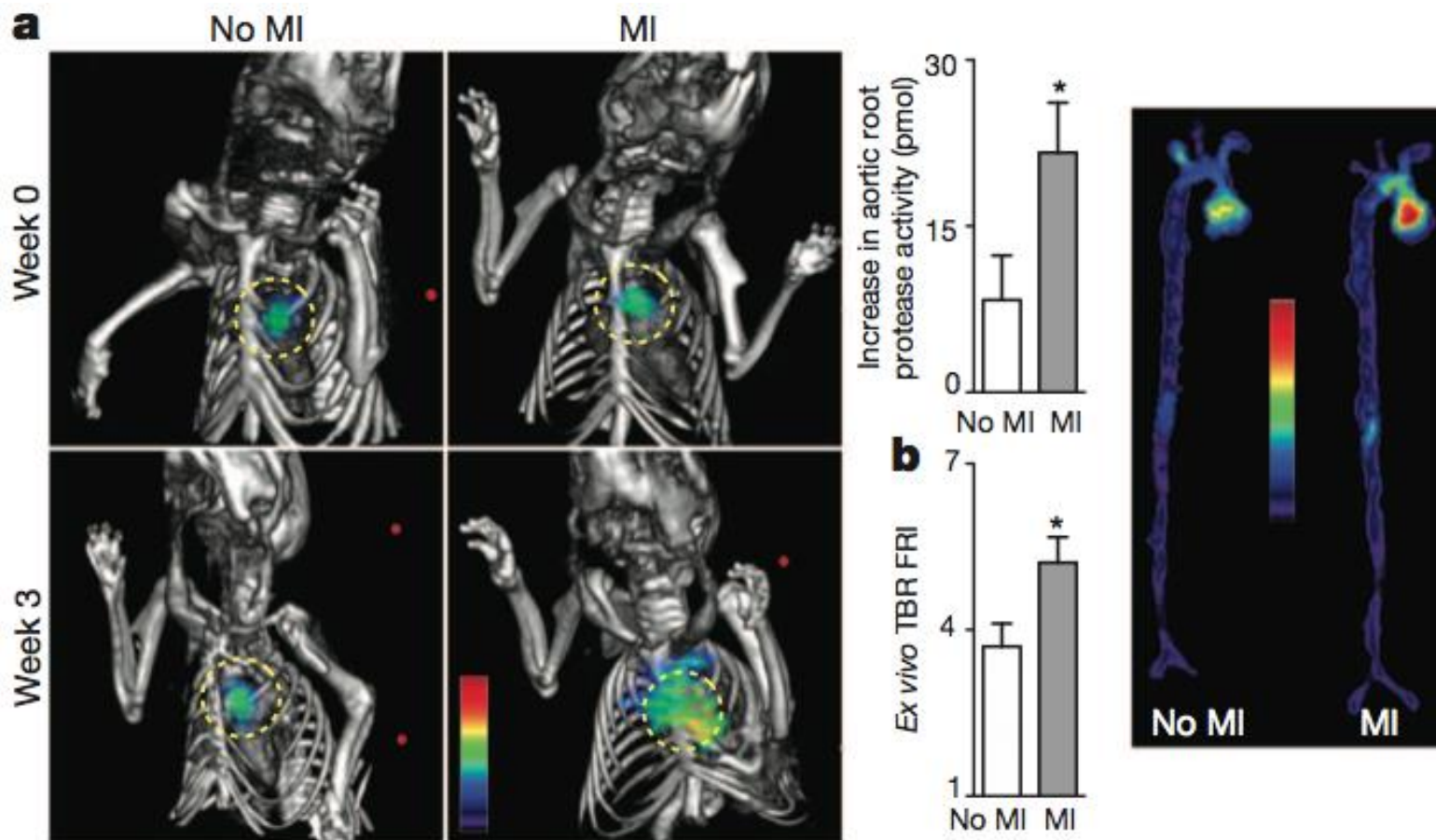
- Acute inflammatory event
- High re-infarction rate after MCI

Methods

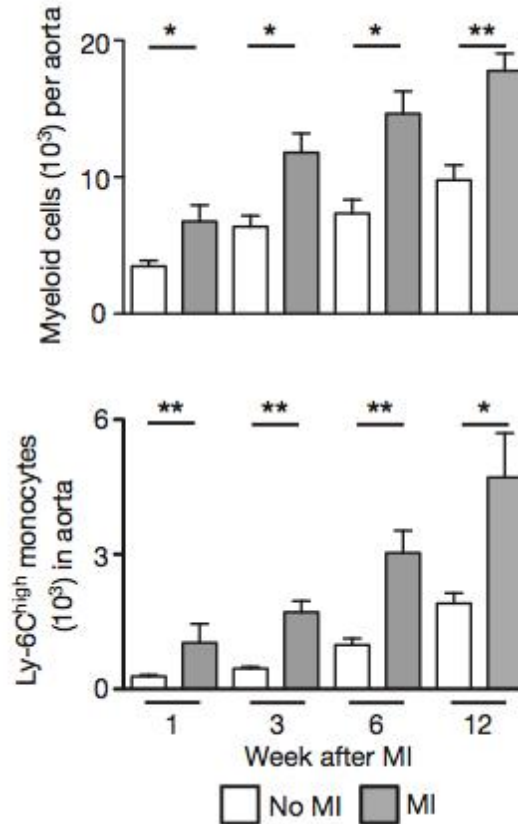
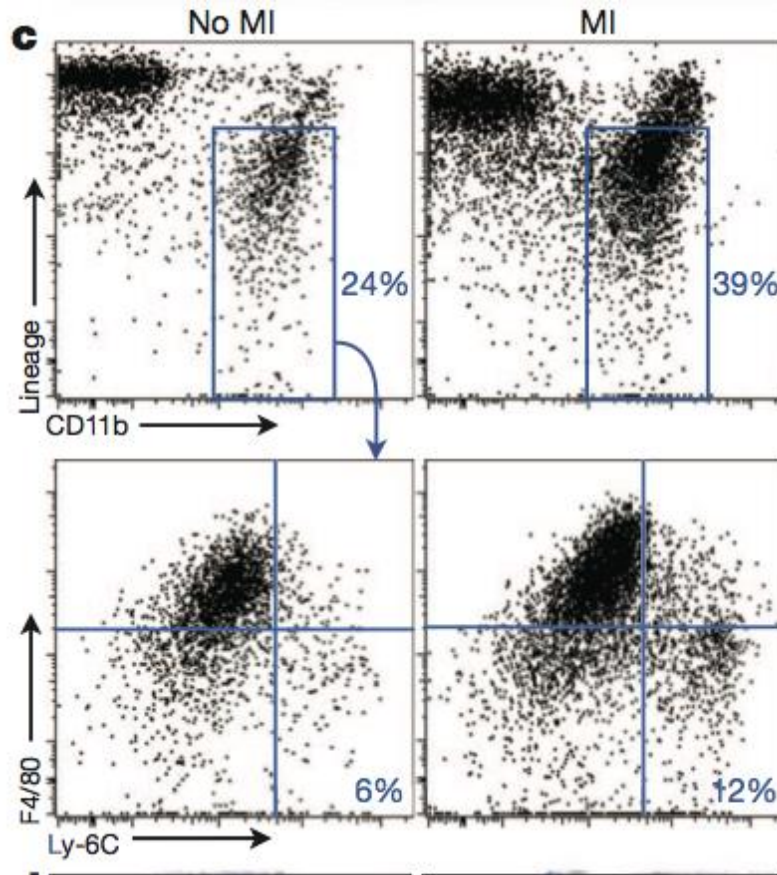
- LAD ligation in wild-type/APO E^{-/-} mice
- Hybrid fluorescence molecular tomography
- FACS, Histology
- Intravital microscopy



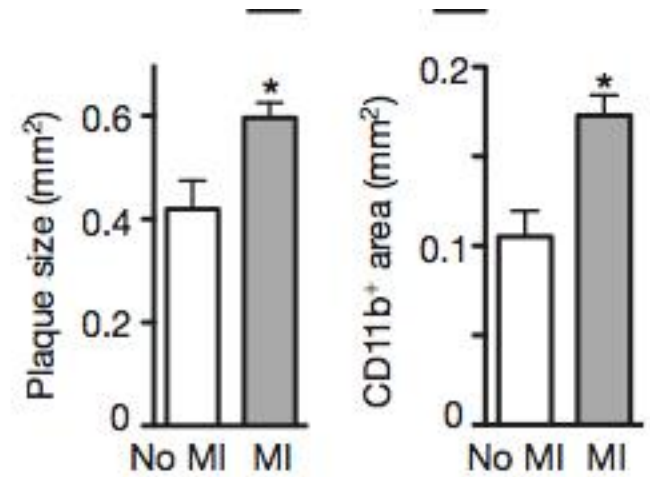
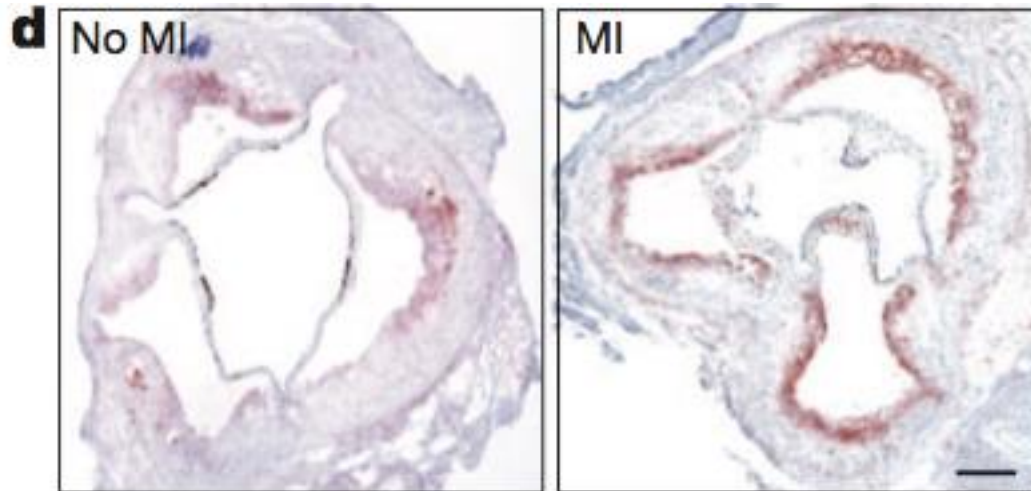
Results



Results

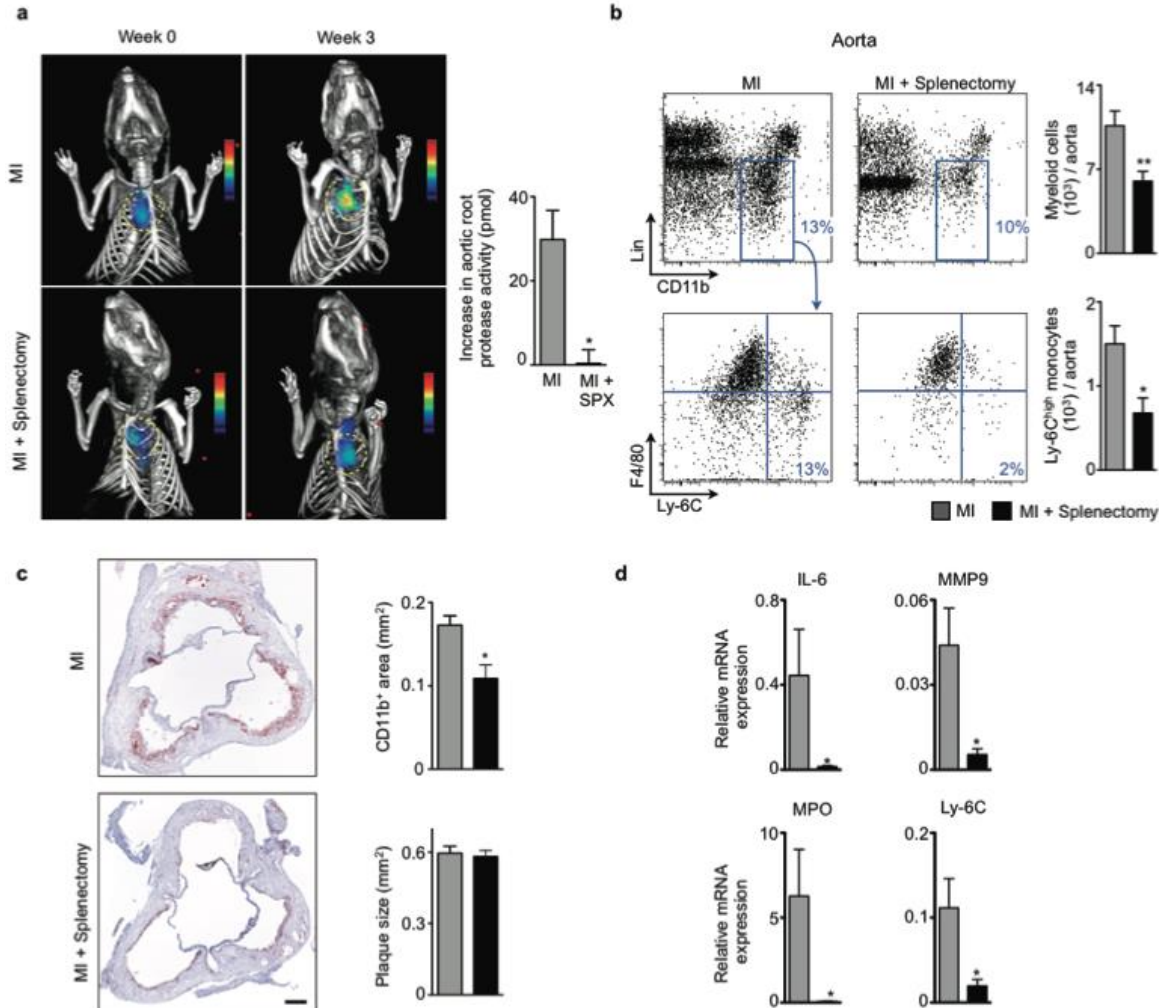


Results



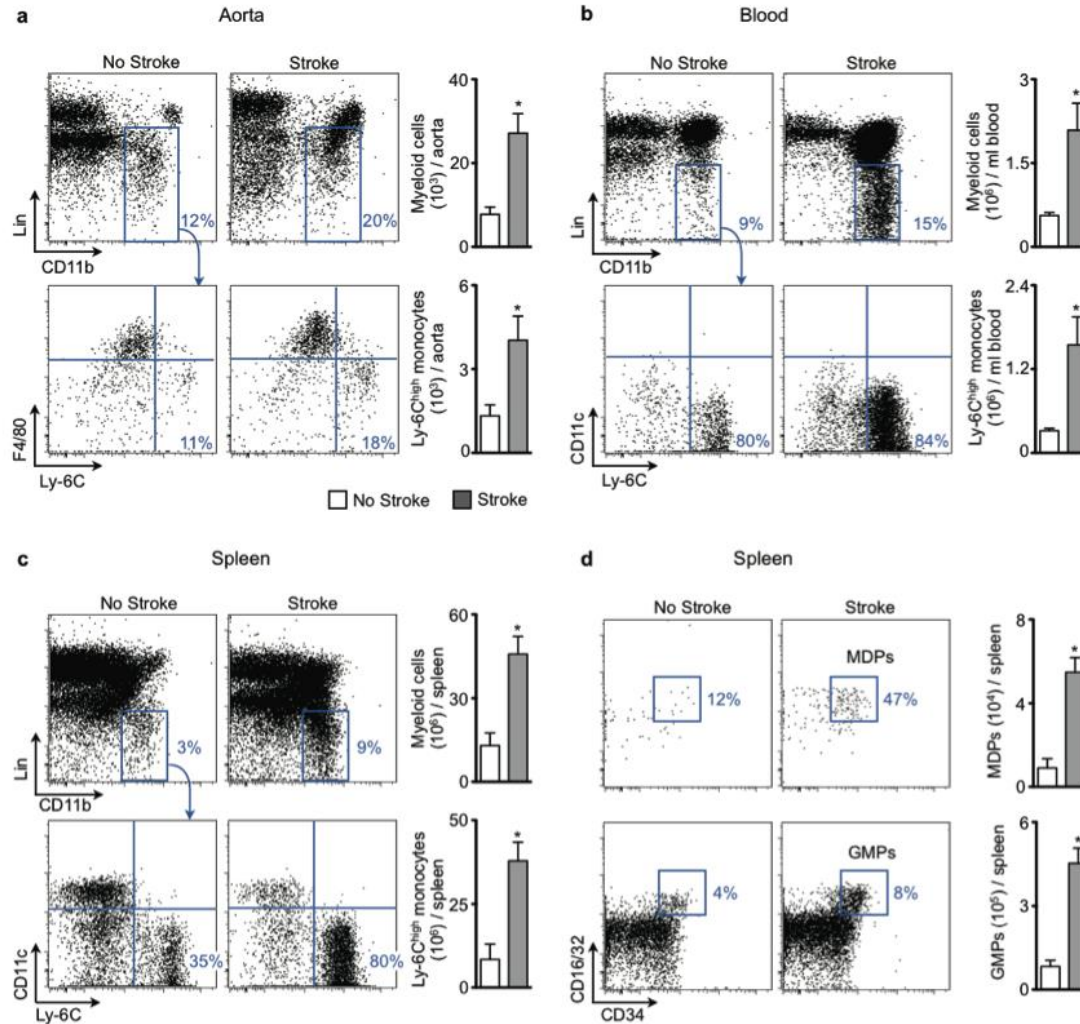


Results

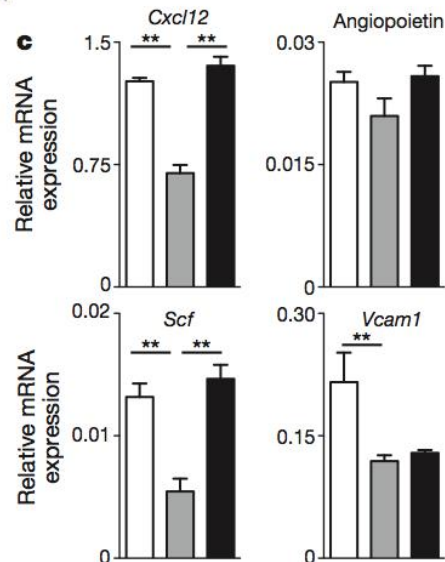
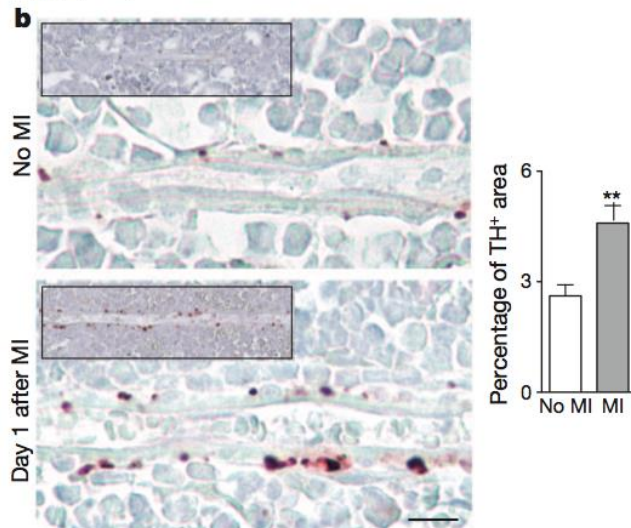
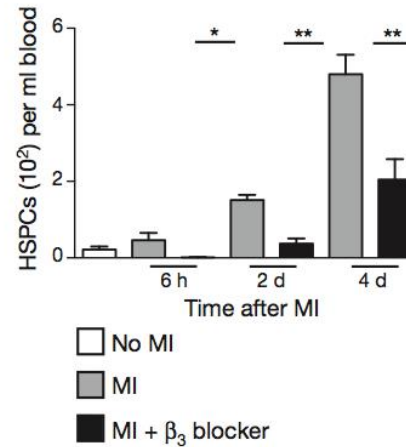
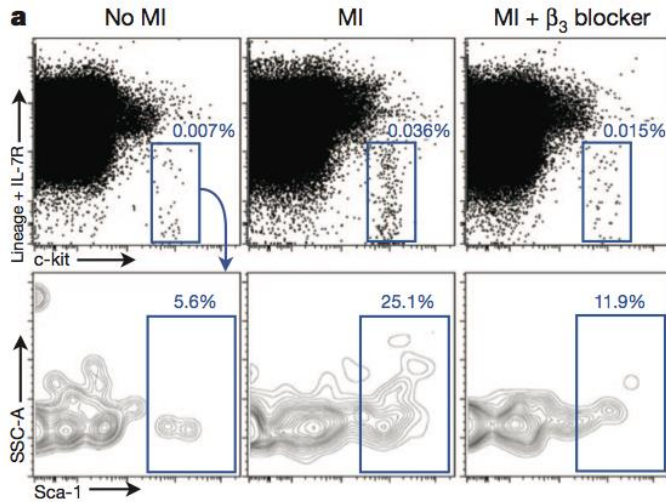




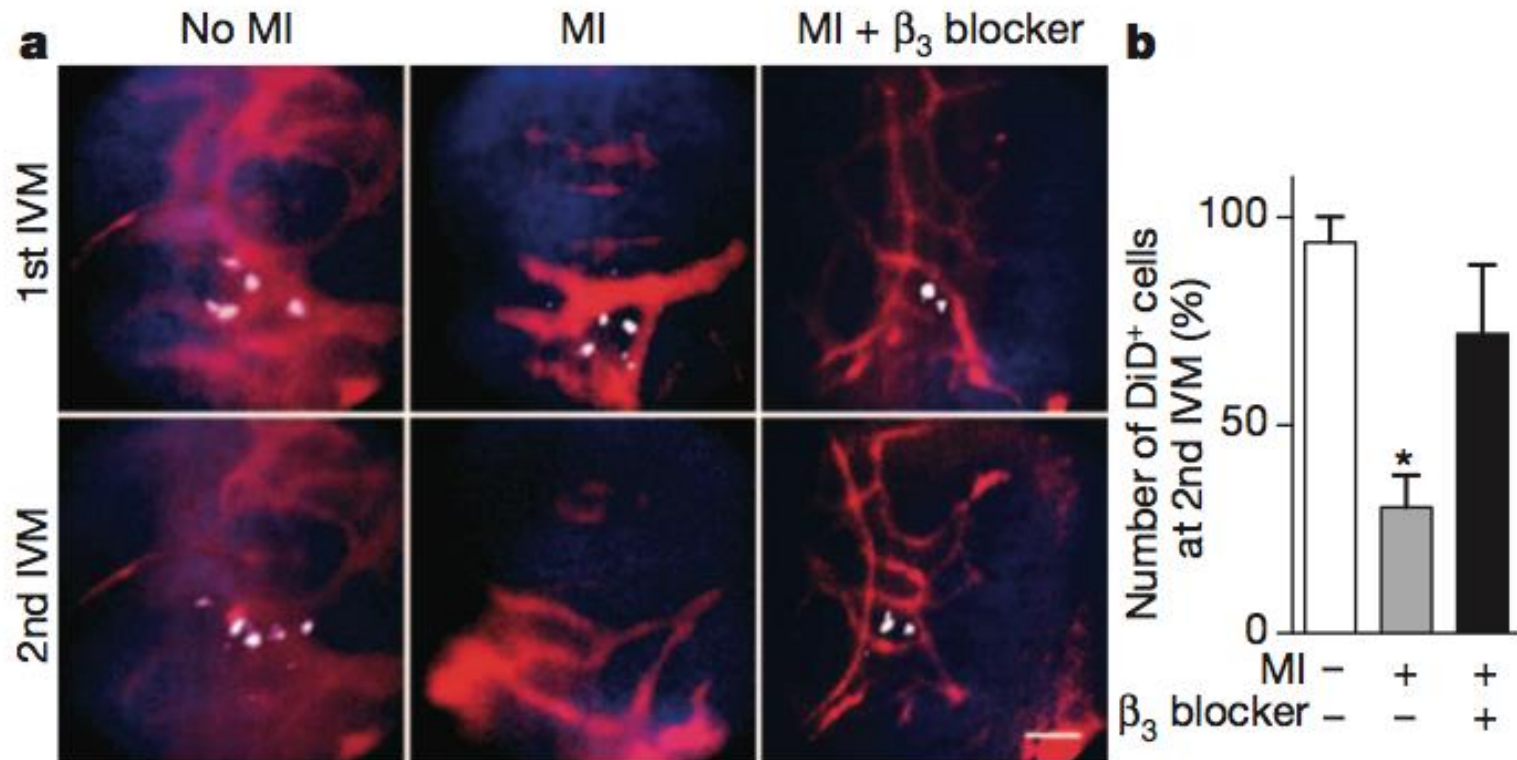
Results



Results

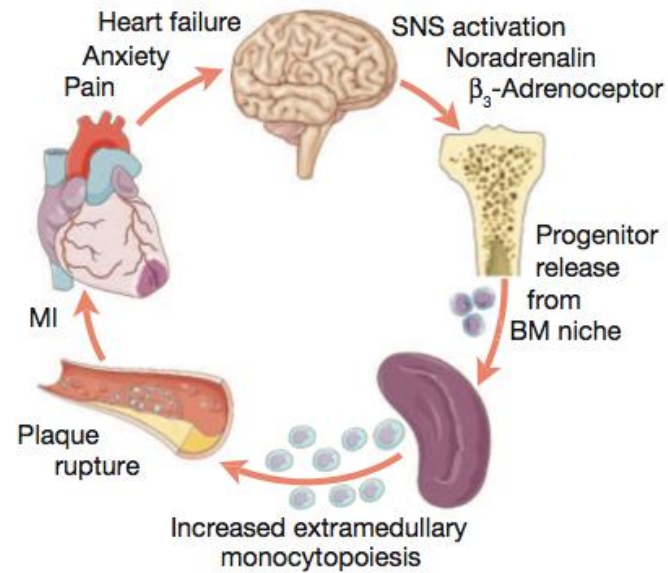


Results



Results

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Discussion

- Acute MCI increases inflammation in pre-existing atherosclerotic plaque
- Extramedullary monocytopoiesis in the spleen increased and altered after MCI
- SNS involved in recruitment of progenitor cells after MCI – no additive effect with splenectomy



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Thank you for your attention!