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Titel des Beitrags:
Induction of hematopoietic differentiation of mouse embryonic stem cells by an AGM-derived stromal cell line is not further enhanced by overexpression of HOXB4.

Abstract:
Hematopoietic differentiation of embryonic stem (ES) cells can be enhanced by co-culture with stromal cells derived from hematopoietic tissues and by overexpression of the transcription factor HOXB4. In this study, we compare the hematopoietic inductive effects of stromal cell lines derived from different subregions of the embryonic aorta-gonad-mesonephros tissue with the commonly used OP9 stromal cell line and with HOXB4 activation. We show that stromal cell lines derived from the aorta and surrounding mesenchyme (AM) act at an earlier stage of the differentiation process compared with the commonly used OP9 stromal cells. AM stromal cells were able to promote the further differentiation of isolated brachyury-GFP(+) mesodermal cells into hematopoietic progenitors, whereas the OP9 stromal cells could not support the differentiation of these cells. Co-culture and analyses of individual embryoid bodies support the hypothesis that the AM stromal cell lines could enhance the de novo production of hematopoietic progenitors, lending support to the idea that AM stromal cells might act on prehematopoietic mesoderm. The induction level observed for AM stromal cells was comparable to HOXB4 activation, but no additive effect was observed when these 2
Inductive strategies were combined. Addition of a \( ? \)-secretase inhibitor reduced the inductive effects of both the stromal cell line and HOXB4, providing clues to possible shared molecular mechanisms.