

## Transdifferentiation and migration of bone marrow-derived keratinocytes

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Recent studies have suggested that bone marrow (BM) cells transdifferentiate to regenerate a variety of cellular lineages. Due to the relatively small population of BM-derived cells in each organ, it is still controversial whether these BM-derived cells are really present in sufficient numbers, for effective function. Conversely, it is speculated that chemokine/chemokine receptor interactions mediate this migration of the tissue specific precursor cells from BM into the target tissue.

Here we show that cutaneous T-cell attracting chemokine (CTACK) /CCL27 is the major regulator involved in the migration of keratinocyte precursor cells from BM into skin. By screening various chemokine expression patterns, we demonstrated that CTACK is constitutively expressed in normal skin and upregulated in wounds and that approximately 20% of CD34+ BM cells expressed CCR10 the ligand for CTACK.

These results provide direct evidence that recruitment of BM keratinocyte precursor cells to the skin is regulated by specific chemokine/chemokine receptor interactions, which makes possible the development of new regenerative therapeutic strategies.