

---

Subject: 5-aminolevulinic acid and iron ion.

Posted by [pippo24](#) on Mon, 02 Mar 2009 11:53:32 GMT

[View Forum Message](#) <> [Reply to Message](#)

---

Mal wieder was neues an der Mäuse front :

Int J Dermatol. 2008 Dec;47(12):1298-303.

Hair growth stimulatory effect by a combination of 5-aminolevulinic acid and iron ion.

Morokuma Y, Yamazaki M, Maeda T, Yoshino I, Ishizuka M, Tanaka T, Ito Y, Tsuboi R.

Department of Dermatology, Tokyo Medical University, Tokyo, Japan.

**BACKGROUND:** 5-Aminolevulinic acid (5-ALA) is a precursor of a tetrapyrrole compound. 5-ALA has been used for photodynamic therapy as well as for plant growth. 5-ALA and iron ion are precursors of heme, which is incorporated into hemoglobin and cytochrome. **AIM:** To explore the possible application of a 5-ALA and iron ion admixture on hair growth in mice. **METHODS:** The effect of a 5-ALA and iron ion admixture on hair growth and cell proliferation in mice was examined. The dorsal hair of 8-week-old male CeH/HeN mice was clipped, and a 5-ALA and iron ion admixture was applied to the dorsal skin once daily for 21 days in a room supplied with common room lights. Hair growth was later examined by calculating the ratio of the area showing hair growth to the total clipped area. For the cell proliferation assay, a 5-ALA and iron ion admixture at several different concentrations was added to a culture medium containing keratinocytes or fibroblasts, and the cell numbers were counted. **RESULTS:** Mice treated with an admixture of 5-ALA and iron ion showed significant hair growth ( $P < 0.05$ ) at day 15 relative to those treated with iron ion alone, as revealed by the Tukey-Kramer test. The stimulatory effect of the mixture was almost identical to that of 5% minoxidil. No proliferation of keratinocytes or fibroblasts was observed, however, when an admixture of 5-ALA and iron ion was added to the medium. **CONCLUSIONS:** The results suggest that an admixture of 5-ALA and iron ion stimulates murine hair growth in vivo independent of epithelial and mesenchymal cells, although the precise mechanism is still uncertain. This mixture has the potential to become a beneficial new treatment for alopecia.

---