Duo GHK-Cu + Zinc Thymulin

Purity: >98% (HPLC on request) I Molecular Formula: C33H54N12015
Molecular Weight: 858.85 g/mol I Sequence: Non-Peptide

DESCRIPTION:

Thymulin is a nonapeptide produced by two distinct epithelial populations in the thymus first described by Bach in 1977. It requires zinc for biological activity. The hormone is involved in T-cell differentiation and enhancement of T and NK cell actions. Thymulin has neuroendocrine effects as well. It follows a circadian rhythm and physiologically elevated ACTH levels correlate positively with thymulin plasma levels and vice versa. A recent study was done on Zinc Thymulin to test its efficacy in the treatment of hair loss. The study indicated that topical treatment with zinc thymulin significantly increased hair growth over 6 months; further, there were no system-
ic or local side effects from the treatment. The zinc thymulin metallo-peptide optionally also improves endogenous hair pigmentation. For example, by stimulating melanogenesis in grey or greying hair.

PROTOCOL:

Content & Potency: 0.2%GHK-Cu in cosmetic dropper provided as a 25 ml bottle

Suggested dosage: Apply 0.8-1ml (1 dropper) once daily before bedtime

CLINICAL RESEARCH:

An Analysis of the Safety and Efficacy of Topical Zinc-Thymulin to treat Androgenetic Alopecia

To assess the safety and efficacy of the metallopeptide zinc-thymulin (ZT) for treating androgenetic alopecia (AGA). Previous in vitro studies have described that different thymic peptides can both increase and decrease anagen (thymulin and thymosin beta-4, respectively). Zinc is an essential element and serum zinc deficiency can cause hair loss.

Eighteen consecutive adult subjects were recruited, 17 males and 1 female, age range 35-90 years(mean 55.4, SD 13.3) with a diagnosis of AGA, Norwood classification

2-7, and hair loss duration range of 3-40 years (mean 15.8, SD 9.6). The trial duration for each subject ranged from 4-10 months. The test compound ZT was synthesized by standard Fmoc peptide protocols and administered in water based topical spray to the scalp.Baseline and after treatment images for hair growth were graded by two blinded assessors using two validated scales: 1. numerical visual analog scale (VAS) for global assessment 2. hair growth index (HGI) of images under higher magnification for percentage changes of vellus, intermediate and terminal hair.

ZT demonstrated no adverse systemic effects or local side effects of redness or scalp irritation in any subject over a total of 3,300 treatment days. Three subjects who were concurrently using minoxidil (N=2) and minoxidil / finasteride (N=1) did not report any drug interaction with ZT. VAS hair assessment improvement was significant in subjects who completed 6 months of treatment (P=0.045, t-test). HGI assessment showed a significant increase in the number of newly observed intermediate hairs in previous "absent hair" regions (P<0.0001) with an average increase of vellus type (32%) and intermediate type (23%) hairs at 6 months. Melanogenesis was observed in several subjects. Topical applications of ZT demonstrated safety and established efficacy for initiating and maintaining anagen to treat male pattern baldness when applied for >6 months.

Vickers ER