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Subject: Studie Fullerene Nanomaterialien verstärken das Haarwachstum

Posted by [tricospanish](#) on Wed, 12 Oct 2011 11:16:12 GMT

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Sie sind individuelle Kohlenstoff Makromoleküle mit geschlossenen Strukturen von mehreren zehn Kohlenstoffatomen nur gebildet.

Fullerene sind eine allotrope Kohlenstoff. Sie wurden versehentlich von einer Gruppe von Smalley und Kroto im Jahr 1985 entdeckt

Seine Entdeckung wurde mit dem Nobelpreis in Chemie in 1996 ausgezeichnet.

Erhalten durch die Wechselwirkung der C60-Atome in der Gasphase

Sie sind wenig löslich in den meisten Lösungsmitteln

Fullerene nanomaterials potentiate hair growth

Zhiguo Zhou, PhD, Robert Lenk, PhD, Anthony Dellinger, BS, Darren MacFarland, PhD, Krishan Kumar, PhD, Stephen R. Wilson, PhD, Christopher L. Kepley, PhD, MBA? Luna nanoWorks, a division of Luna Innovations Incorporated, Danville, Virginia, USA

"Fullerenes are carbon spheres that have intrinsic properties that may have therapeutic potential for a wide range of disorders."

"The later finding represents a potentially new therapeutic opportunity for conditions leading to hair loss."

"problem is that there are limited effective treatments that can prevent hair loss and induce new hair growth. In this report we show that fullerene derivatives can accelerate hair strand growth and induce new hair follicles within the dermis in mice with genetically underlying factors that limit hair follicle numbers and hair growth. Thus, these compounds may represent a new way to treat hair loss.

As with minoxidil (Rogaine) and finasteride (Propecia), the only two hair loss treatments approved by the US Food and Drug Administration, it is unclear how fullerenes induce hair growth.

In animal studies, minoxidil shortens telogen, causing premature entry of resting hair follicles into anagen, and causes prolongation of anagen, thus increasing hair follicle size.<sup>10</sup> Finasteride is an anti-androgen that inhibits human type 2 5 $\alpha$ -reductase and decreases the formation of dihydrotestosterone from testosterone.

However, neither minoxidil nor finasteride seems to have any significant effect on hair follicle numbers in hairless mice and human scalp tissue.<sup>11-13</sup> In contrast, we have discovered a new way in which hair follicles can be induced de novo. As seen above, the fullerene derivatives described here significantly increase the number of hair follicles in the skin."

"demonstrate that fullerenes induce hair growth in human skin, suggesting that the mechanism

that potentiates hair growth in mice is similar to that in humans. Thus, we predict the results presented here will translate into new ways to induce hair growth in the approximately 20% to 50% of individuals in whom minoxidil and finasteride have no effect."

## File Attachments

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1) [Fullerene.pdf](#), downloaded 814 times

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