Nucleic acid mediated inhibition of hair growth

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Technology description

This technology employs nucleic acid interference of specific target genes implicated in hair growth. The expression of these genes, desmoglein 4, nude and hairless, is inhibited by mRNA cleavage and/or translation repression, in order to stifle hair...

Summary

Problem or Unmet Need:
Hair removal products and methods for both cosmetic and therapeutic applications range from the old stand-by shaving to new treatments, such as laser procedures, electrolysis and a topical hair growth inhibitor Vaniqa. However, few products provide safe, easy, fast and painless long-term hair removal. As a result, the demand remains strong for new product innovations that promise more effective and efficient hair removal or hair growth elimination with a long-lasting effect, while eliminating the common side-effects like skin irritation and pain of other existing methods.
This technology employs nucleic acid interference of specific target genes implicated in hair growth. The expression of these genes, desmoglein 4, nude and hairless, is inhibited by mRNA cleavage and/or translation repression, in order to stifle hair growth or remove hair. Catalytic nucleic acid constructs, both RNA and DNA based, for such interference-mediated inhibition are described, and compositions of carrier and vector containing these constructs have been prepared for use in humans and other mammals.

Application area

This technology can be used for topical hair growth inhibition and temporary or long-term hair removal in cosmetic applications
The compositions described can be used in the treatment or prophylaxis of certain medical conditions, such as hypertrichosis, trachoma, and hirsutism
The technology has the potential to be efficiently utilized to remove hair from mammals whose hides will be used for leather

Advantages

This technology can be applied to all human skin and hair types for hair removal
The method can readily be adapted to any of the various mammals having desmoglein4, nude, and/or hairless protein analogs
This approach achieves more specific, highly targeted, safe and painless hair removal than currently available methods
This technology flexibly provides both temporary and long-term hair removal methods through inhibition of hairless protein expression

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