Abstract of Presentation

Presentation Title(Should be no more than 20 words):

The Novel Hair Dyeing Technology by Using Melanin Precursor Prepared by an Aspergillus Tyrosinase

Abstract :

Melanin is a natural black pigment existing in human hair and skin. It can not be used for a dyestuff for hair coloring because its molecule is too large to penetrate into hair. In the biological process, melanin is generated from an amino acid, tyrosine or dihydroxyphenylalanine (DOPA) by oxidation and polymerization reactions of oxidative enzymes, such as tyrosinase. There are some intermediates, called melanin precursors, in the course of melanin formation. These precursors are easily converted to melanin by air oxidation without enzymes or other catalysts. These molecules are useful for dyestuffs because their sizes are enough small. Therefore, we established new bioconversion process with *Aspergillus* tyrosinase for production of dihydroxyindole, a melanin precursor, and a novel coloring technology for gray hair coverage with the product. This coloring system is, in essence, the same process as in nature, and its aim is to restore the original color of hair without hair damage. This coloring system was recently applied and launched as a men's product in Japan.