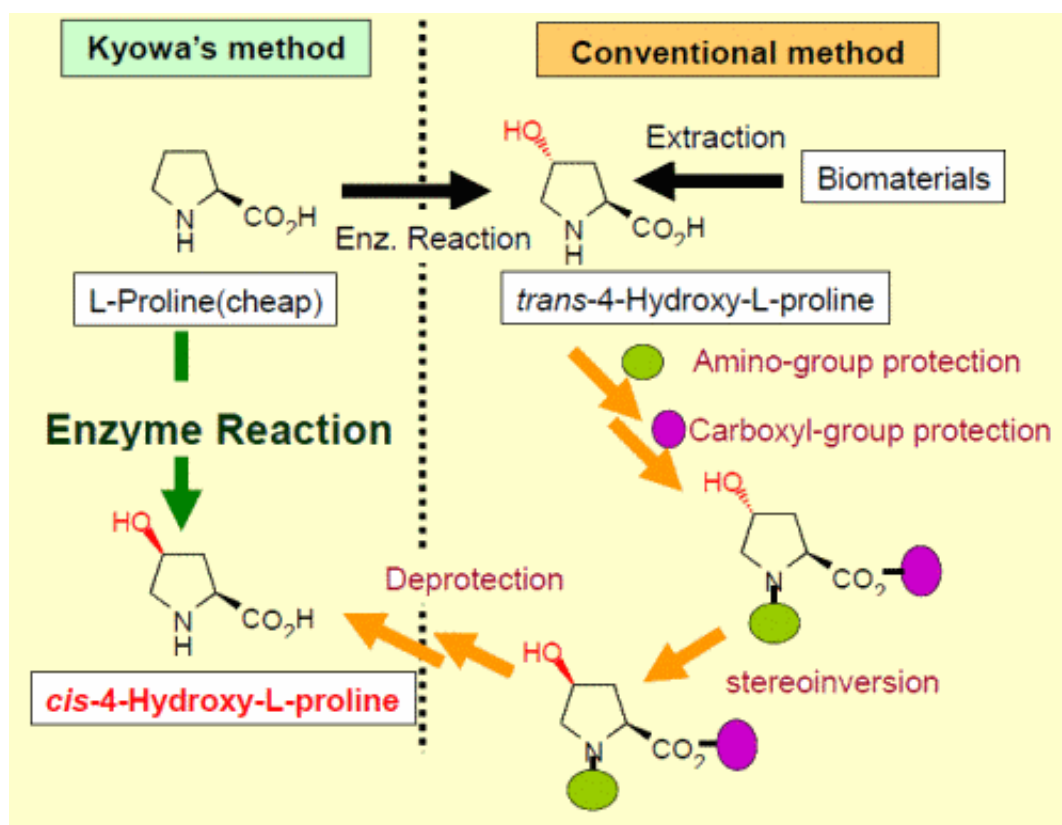


Discovery of *cis*-4-Hydroxy-L-proline, a material of pharmaceutical, cosmetic products

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Discovery of the new enzyme, available for manufacturing of *cis*-4-Hydroxy-L-proline, a material of pharmaceutical and cosmetic products.

Prof. Kuniki Kino (Department of Applied Chemistry, Faculty of Science and Engineering) and Dr. Ryotaro Hara (Research Institute for Science and Engineering) have discovered New Enzyme, which contributes establish an innovative new industrial manufacturing method for cis-4-hydroxy-L-proline, an amino acid derivative.

cis-4-Hydroxy-L-proline is a kind of amino acid which is hydroxylated in the 4-position of L-proline and it is believed to have potential as a raw material for pharmaceutical and [cosmetic products](#). trans-4-Hydroxy-L-proline, a cis-4-hydroxy-L-proline stereoisomer, has been used for a broad range of applications since an efficient fermentation production method was established by KYOWA HAKKO BIO CO., LTD. in 1997. cis-4-Hydroxy-L-proline, however, could only be manufactured through a complex chemical synthetic procedure, and due to the high costs involved, usage has been limited.

Using a new [enzyme](#) that positionally and stereoscopically hydroxylates L-proline discovered by Prof. Kino and Dr. Hara, KYOWA HAKKO BIO has established an efficient industrial production method for cis-4-hydroxy-L-proline. As a result, they are now able to steadily supply highly pure cis-4-hydroxy-L-proline at a low cost. Further, they now have the technology to cheaply produce a variety of highly pure proline [derivatives](#).

Waseda University, as a “Research University”, keeps contributing to the development of industry through promoting Research collaborations.

Provided by Waseda University

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