

Resource Summary Report

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His-tag purification

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Type: Protocol

Proper Citation

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Protocol Information

URL: <https://dx.doi.org/10.17504/protocols.io.bnw5mfg6>

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Group: iGEM Groningen 2020

Summary: His tag purification uses the technique of immobilised metal affinity chromatography. In this technique, transition metal ions are immobilized on a resin matrix using a chelating agent such as iminodiacetic acid. It has been studied that among amino acids constituting proteins, histidine is strongly involved in the coordinate bond with metal ions. Therefore, if a number of histidines are added to the end of the protein by genetic engineering, the affinity of the protein for the metal ion is remarkably increased and the basic idea is that purification can be easily carried out. When a protein having a His tag is brought into contact with a carrier on which a metal ion such as nickel is immobilized, the histidine residue chelates the metal ion and binds to the carrier. Since other proteins do not bind to the carrier, they can be washed off with a buffer. Thereafter, it is possible to recover the protein having the His tag with high purity.

Affiliations: University of Groningen

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