



An Epitope Tag for Gentle Immunoaffinity Chromatography

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a protein immunopurification method that allows elution of proteins from antibodies under mild conditions.

Overview

Epitope tagging provides an improved method of protein immunopurification. The technique involves adding a small peptide epitope to a protein of interest through recombinant DNA techniques. The recombinant protein is then detected and isolated by binding an antibody that is specific for the epitope tag to the protein. However, strong denaturing conditions are often required to elute the bound protein from the antibody during purification.

The Invention

UW-Madison researchers have now developed a protein immunopurification method that allows elution of proteins from antibodies under mild conditions. To develop the technique, the researchers first selected monoclonal antibodies that released antigen under mild, non-denaturing conditions. They then identified epitope tags for the monoclonal antibodies through recombinant DNA methods.

Softag1, an epitope of a well-characterized monoclonal antibody, was identified through this method. When Softag1 was fused to proteins and expressed in *E. coli*, purification of the tagged proteins required only a single-step immunoaffinity chromatography procedure and elution using mild conditions.

Applications

- Rapid, simple protein purification
- Large scale purification of hundreds or thousands of proteins
- Identification of new protein-protein interaction partners

Key Benefits

- Proteins released under gentle, non-denaturing conditions retain their biological activities and are suitable for structure-function studies.
- Softag1 is small (only 13 amino acids) and should have no effect on the biological function of the tagged protein.
- An excellent, well-characterized monoclonal antibody is available for use with this epitope tag.

Tech Fields

- [Research Tools : Synthesis & purification](#)

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