RNAPtag Plasmids for Construction of Tagged RNA Polymerase Strains

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a universal plasmid scaffold, called RNAPtag, which enable easy recombination of the tagged *rpoC* gene into the *E. coli* genome.

Overview

RNA polymerase, the enzyme responsible for making RNA from a DNA or RNA template, is one of the most important proteins in all life forms.

The Invention

To enhance our ability to study various aspects of this enzyme, UW-Madison researchers developed a universal plasmid scaffold, called RNAPtag, that allows the insertion of a tag into the 3` end of *rpoC*, the gene that encodes the β` subunit of RNA polymerase. RNAPtag also encodes a kanamycin resistance cassette followed by DNA that is naturally found downstream of *rpoC*. These features enable easy recombination of the tagged *rpoC* gene into the *E. coli* genome, facilitating the production of *E. coli* strains in which all the RNA polymerase made by the cell contains a tag of interest. Such strains are useful in the study of RNA polymerase.

Applications

- Studying RNA polymerase

Key Benefits

- Tags make it easier to purify, localize or visualize RNA polymerase.
- Almost any tag, including Protein A, hexahistidine and biotin tags, can be inserted.
- Tags have no effect on RNA polymerase activity or cell physiology.
- RNAPtag scaffold has been successfully used to produce several tagged *E. coli* strains.

Tech Fields

- Research Tools : DNA & RNA tools

For current licensing status, please contact Jennifer Gottwald at jennifer@warf.org or 608-960-9854