



AN ENZYMATIC TOOL FOR ATP-DEPENDENT SYNTHESIS OF PEPTIDE AND PROTEIN C-TERMINAL THIOESTERS

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The Invention

UW-Madison researchers have developed an enzyme-substrate pair that can be used as a tool for C-terminal thioesterification of proteins and peptides. Their tool is based on E. coli MccB, an E1-like enzyme whose native function is formation of a C-terminal phosphoramidate linkage in biosynthesis of microcin C7. Their research showed that MccB has a latent capacity to catalyze C-terminal O-AMPylation on non-native substrates, resulting in a C-terminal electrophile that can react with a variety of exogenous nucleophiles, including hydrazines, alkoxyamines, amines, and thiols. The result of which is a diverse set of C-terminal functional groups. From these initial results, the inventors engineered a sequence tag, which they coined Thioesterification C-terminal Handle (TeCH-tag), that enables MccB-catalyzed, ATP-dependent thioesterification of protein C-termini.

Tech Fields

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

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