SITE-SPECIFIC COUPLING OF BIOMOLECULES USING ORTHOQUINONES AND THIOLS

Tech ID: 30184 / UC Case 2019-106-0

PATENT STATUS

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BRIEF DESCRIPTION

The inventors have developed an enzymatically catalyzed method for simple and rapid coupling of biomolecules to native amino acids on protein surfaces. This method is capable of attaching tyrosine or phenol containing molecules, peptides, or proteins to cystine or thiol containing targets at neutral pH with high yields. The inventors demonstrate the utility of this system by modifying Cas9 and other proteins with fluorophores, peptides, and whole proteins, such as green fluorescent proteins (GFPs) and antibody short chain variable fragments. This technology represents a novel paradigm in biomolecule coupling.

SUGGESTED USES

This technology has significant implications in delivery of CRISPR proteins as therapeutics, antibody conjugation for immune based therapies, biomaterial construction, and vaccine development.

INVENTORS

» Francis, Matthew B.

OTHER INFORMATION

CATEGORIZED AS

» Biotechnology
» Health
» Materials & Chemicals
» Biological
» Chemicals
» Nanomaterials
» Medical
» New Chemical Entities, Drug Leads
» Nanotechnology
» NanoBio
» Research Tools
» Protein Synthesis

RELATED CASES

2019-106-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

▶ Modified FC Polypeptides and Methods of Use
▶ Compositions and Methods for Modification of Cells
▶ High Throughput Surface Patterning of Small Molecules and Biomolecules (Option-Agilent)