
Tech ID: 33453 / UC Case 2021-763-0

BRIEF DESCRIPTION
An innovative mass spectrometry platform that utilizes sulfoxide-containing MS-cleavable heterobifunctional photoactivated cross-linkers to enhance protein structural elucidation.

APPLICATIONS
Structural elucidation of protein complexes
Proteomics and protein research
Development of new MS-cleavable cross-linker derivatives
Creation of a comprehensive protein-protein interaction map of cellular systems

ADVANTAGES
Enhances protein structural elucidation
Improves the detection and identification of photocross-linked peptides
Overcomes limitations of residue-specific cross-linkers
Nonspecific nature allows capturing inaccessible regions

Problems Solved:
» Difficulty in mapping interaction regions lacking targetable residues
» Complexity and low abundance of cross-linked products complicating MS analysis and database search

FULL DESCRIPTION
This technology introduces three novel sulfoxide-containing cross-linking reagents: SDASO-L, SDASO-M, and SDASO-S. They aid in identifying protein interaction interfaces that are typically resistant to crosslinking due to a lack of targetable residues. The introduced linkers, SDASO-L (long), -M (medium), and -S (short), are created to facilitate the identification of photocross-linked peptides, thereby enabling photocrosslinking of complex samples.

PATENT STATUS

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<th>Country</th>
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INVENTORS
» Huang, Lan

INVENTORS

OTHER INFORMATION

CATEGORIZED AS
» Biotechnology
» Bioinformatics
» Health
» Other
» Proteomics
» Medical
» Diagnostics
» Other
» Research Tools
» Screening
» Research Tools
» Bioinformatics
ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- New Collision-Induced Dissociation Cross Linker and Related Software Package for Fast and Accurate Mass Spectrometry Analysis of Proteins
- New Sulfoxide-Containing MS-Cleavable Cross-Linker for Proteomics