New Sulfoxide-Containing MS-Cleavable Cross-Linker for Proteomics

Tech ID: 33456 / UC Case 2023-735-0

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OTHER INFORMATION

CATEGORIZED AS
» Biotechnology
» Health
» Other
» Proteomics

RELATED CASES
2023-735-0
BRIEF DESCRIPTION

An innovative sulfoxide-containing MS-cleavable cross-linker, DBrASO, specifically designed for cysteine residues and aimed at enhancing protein-protein interactions studies and protein complexes architecture analysis.

APPLICATIONS

Studies of protein-protein interactions
Protein complex architecture elucidation
Complementing existing lysine-reactive cross-linkers in proteomics studies
Potential utility in quantitative XL-MS studies

ADVANTAGES

Specific target on cysteine residues
Improved specificity at physiological pH
Non-hydrolyzable bromoacetamide groups
Production of homogeneous cross-linked products
Effective for global XL-MS analysis

Problems Solved:

» Fills the existing gap in XL-MS analysis
» Enables unambiguous identification of cross-linking by carrying the same MS-cleavable characteristics as other sulfoxide-containing MS-cleavable cross-linkers
» Overcomes the issue of hydrolyzability associated with other cross-linkers

DESCRIPTION

This technology involves the development of DBrASO, a new sulfoxide-containing, MS-cleavable, cysteinereactive cross-linker. It features bromoacetamide groups providing improved specificity, non-hydrolyzability and homogeneous cross-linked products. The product is designed for unambiguous cross-link identification and has been seen to effectively work on simple and complex samples. DBrASO represents a breakthrough product in proteomics studies, offering a comprehensive solution for protein interaction mapping on a systems-level basis.

PATENT STATUS

Patent Pending

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

▶ New Collision-Induced Dissociation Cross Linker and Related Software Package for Fast and Accurate Mass Spectrometry Analysis of Proteins