New Sulfoxide-Containing MS-Cleavable Cross-Linker for Proteomics
Tech ID: 33456 / UC Case 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, cysteine-reactive 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.

CONTACT
Richard Y. Tun
tunr@uci.edu
tel: 949-824-3586

INVENTORS
- Huang, Lan
- Rychnovsky, Scott D.

OTHER INFORMATION
CATEGORIZED AS
- Biotechnology
- Health
- Other
- Proteomics

RELATED CASES
2023-735-0
ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

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