Efficient Cell Lysis Application

The novel mass spectrometry-compatible ProteaseMAX™ Surfactant (sodium 3-((1-(furan-2-yl)undecyloxy) carbonylamino)-propane-1-sulfonate) facilitates both in-gel and in-solution digestion applications by reducing digestion time, enabling protein solubilization/denaturation and increasing peptide and protein identifications.

A new application using ProteaseMAX™ Surfactant to lyse cells prior to trypsin digestion and subsequent mass spectrometry analysis was highlighted in a recent publication (1).

Compared to lysis buffers containing either urea or SDC, ProteaseMAX™ Surfactant provided the optimal number of identified peptides and proteins. In addition ProteaseMAX™ Surfactant can be easily removed from lysate by acidic precipitation. It was also determined that including cell debris in the analysis increased the number of peptides and proteins (see table).

Comparison of Protein Extraction Methods and the Effect of Including Cell Debris in the Digestion Step.

Extraction Buffer	Number of Peptides	Number of Proteins
Urea	17,024 ± 148	3,326 ± 20
SDC	22,171 ± 403	3,698 ± 18
ProteaseMAX™ Surfactant	29,884 ± 228	4,465 ± 100
ProteaseMAX™ Surfactant and cell debris	33,098 ± 283	4,655 ± 51

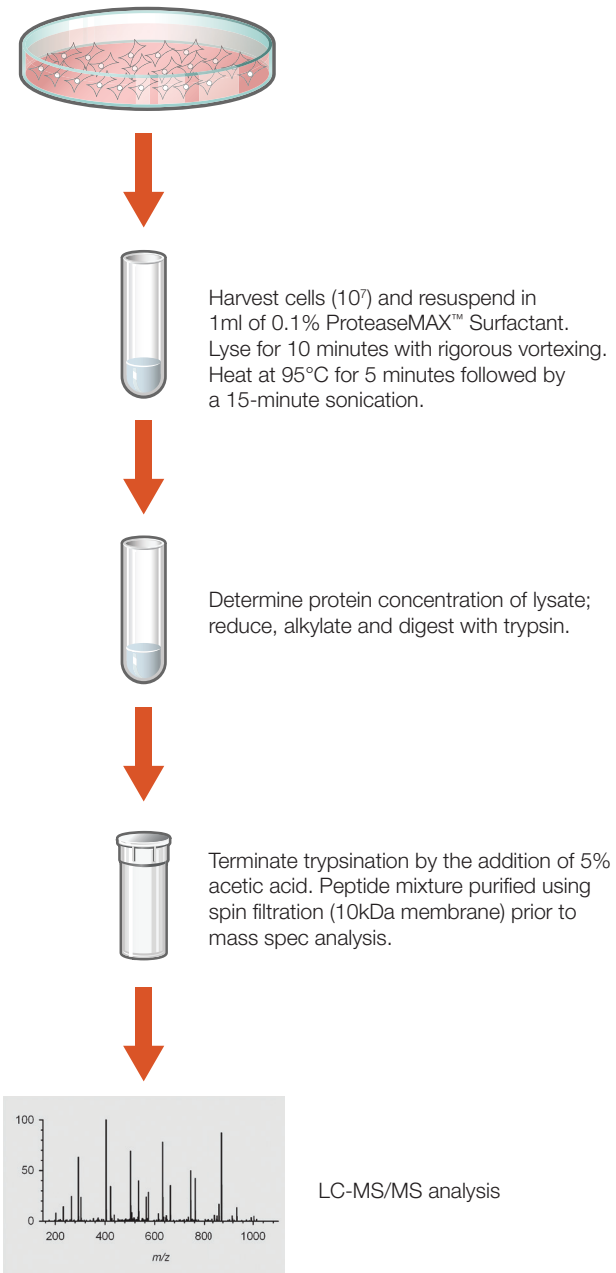

Figure 1. Schematic illustrating the use of ProteaseMAX™ Surfactant for cell lysis. See the reference for details.

Reference

1. Pirmoradian, M. *et al.* (2013) Rapid and deep human proteome analysis by single-dimension shotgun proteomics. *Mol. Cell. Prot.* **12**, 3330–8.

12139MA

Ordering Information

Product	Size	Cat.#
ProteaseMAX™ Surfactant, Trypsin Enhancer	1mg	V2071
	5mg (5 × 1mg)	V2072

Related Products

Product	Size	Cat.#
Sequencing Grade Modified Trypsin	100µg	V5117
	100µg (5 × 20µg)	V5111
Trypsin Gold, Mass Spectrometry Grade	100µg	V5280
Sequencing Grade Modified Trypsin, Frozen	100µg (5 × 20µg)	V5113
Asp-N, Sequencing Grade	2µg	V1621
Chymotrypsin, Sequencing Grade	25µg	V1061
	100µg (4 × 25µg)	V1062
Endoproteinase Lys-C, Sequencing Grade	5µg	V1071
rLys-C, Mass Spec Grade	15µg	V1671

For more information about ProteaseMAX™ Surfactant, visit:

www.promega.com/proteasemax

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