

Anionic Acid Labile Surfactant

Progenta Acid Labile Surfactants (ALS) are novel, acid cleavable detergents that are fully compatible with mass spectrometry analysis.

The Progenta Anionic Acid Labile Surfactant has been engineered to provide a safe, robust alternative to detergents (e.g. sodium dodecyl sulfate) that are commonly used in proteomics work, but that negatively impact subsequent analysis by mass spectrometry. While SDS and other detergents can improve protein solubility, they can be very difficult to remove during sample prep and purification of the protein sample. These bound detergents can cause significant impairment of protein analysis by mass spectrometry, as the surfactants can suppress analyte ion signal, promote analyte adduct formation, and present as contaminants during the analysis.

The Progenta Anionic Acid Labile Surfactant is fully mass spec compatible and alleviates the problems commonly associated with SDS and other detergents in proteomics studies. At neutral pH, the Progenta AALS functions as a powerful detergent for use in sample preparation, protein solubilization, and cell lysis protocols. After completing the experimental work, the solution is adjusted to a pH of 2.5 – 3 with trifluoroacetic acid (TFA) and incubated for 10 minutes to fully cleave the AALS into small organic molecules that do not exhibit surfactant activity or interfere with analysis by mass spectrometry. Other commercially available acid labile surfactants require incubation in harsher acidic environments of pH 1.0 to 2.0 for up to several hours and may produce an oily pellet or film from the cleavage by-products. Progenta AALS has been specially engineered to provide powerful surfactant performance with the added benefit of quick, simple acid-based detergent cleavage and removal for reproducible results in mass spectrometry-based proteomics studies.

FEATURES:

- Rapidly cleaved in just 10 minutes at pH 2.5 - 3.0 (e.g. 1% TFA)
- AALS cleavage products are fully soluble and do not interfere with mass spectrometry analysis
- Compatible with both MALDI and ESI mass spectrometry
- AALS promotes protein solubility and improves enzymatic digestion
- Certified Mass Spec Grade



RESEARCH APPLICATIONS:

- Solubilization of proteins and other biomolecules
- Sample preparation and solid phase extraction
- Improved enzymatic digestion of proteins
- Gel electrophoresis and electroelution buffers
- Cell lysis and protein extraction from cell lines, tissues, and biological samples
- Extraction of biomolecules from environmental samples

SPECIFICATIONS:

Progenta™ Anionic Acid Labile Surfactant I (AALS I)

- Critical Micellar Concentration (CMC) = 7.7 mM
- Recommended concentration: 0.1 – 2.0%

Progenta™ Anionic Acid Labile Surfactant II (AALS II)

- Critical Micellar Concentration (CMC) = 1.9 mM
- Recommended concentration: 0.01 – 2.0%

ORDERING INFORMATION:

Progenta™ Anionic Acid Labile Surfactant I (AALS I)

Catalog Number	Size
ALS-100-5mg	5 mg
ALS-100-5x5mg	5x5 mg
ALS-100-10x5mg	10x5 mg

Progenta™ Anionic Acid Labile Surfactant II (AALS II)

Catalog Number	Size
ALS-110-5mg	5 mg
ALS-110-5x5mg	5x5 mg
ALS-110-10x5mg	10x5 mg

Progenta Zwitterionic Acid Labile Surfactant

Progenta Zwitterionic Acid Labile Surfactants (ZALS) are novel, acid cleavable detergents that are fully compatible with mass spectrometry analysis. The Progenta ZALS's have been engineered to provide a safe alternative to detergents (e.g. CHAPS) that are commonly used in proteomics work, but that negatively impact subsequent analysis by mass spectrometry. While CHAPS and other detergents can improve protein solubility, they can be very difficult to remove during sample prep and purification of the protein sample. These bound detergents can cause significant impairment of protein analysis by mass spectrometry, as the surfactants can suppress analyte ion signal, promote analyte adduct formation, and present as contaminants during the analysis.

The Progenta Zwitterionic Acid Labile Surfactants are fully mass spec compatible and alleviate the problems commonly associated with CHAPS and other detergents in proteomics studies. At neutral pH, the Progenta ZALS functions as a powerful detergent for use in sample preparation, protein solubilization, and cell lysis protocols. After completing the experimental work, the solution is adjusted to a pH of 2.5 with trifluoroacetic acid (TFA) and incubated for 30 minutes to fully cleave the ZALS into small organic molecules that do not exhibit surfactant activity or interfere with analysis by mass spectrometry. Other commercially available acid labile surfactants require incubation in harsher acidic environments of pH 1.0 to 2.0 for up to several hours and may produce an oily pellet or film from the cleavage by-products. Progenta ZALS has been specially engineered to provide powerful surfactant performance with the added benefit of quick, simple acid-based detergent cleavage and removal for reproducible results in mass spectrometry-based proteomics studies.

Both Progenta Zwitterionic Acid Labile Surfactants are effective at solubilizing peptides and proteins, functioning in cell lysis protocols, optimizing enzymatic digestions, reducing surface adsorption losses via non-specific interactions, and replacing CHAPS in the isoelectric focusing (IEF) step of 2D gel separations. ZALS I has a Critical Micelle Concentration (CMC) of 3.4 mM. ZALS II has a shorter hydrophobic tail, yielding a less powerful CMC of 31.3 mM. Both ZALS I and II exhibit fast, efficient degradation kinetics at acidic pH's of 2.0 to 2.5.

FEATURES:

- Rapidly cleaved in just 30 minutes at pH 2.0 – 2.5 in 1% TFA
- ZALS cleavage products are fully soluble and can be washed away to not interfere with mass spectrometry analysis
- Promotes protein solubility and improves enzymatic digestion
- Certified Mass Spec Grade

RESEARCH APPLICATIONS:

- Solubilization of proteins and other biomolecules
- Sample preparation and solid phase extraction
- Improved enzymatic digestion of proteins
- Cell lysis and protein extraction from cell lines, tissues, and biological samples
- 2D gel electrophoresis buffers
- Extraction of biomolecules from environmental samples

SPECIFICATIONS:

Progenta™ Zwitterionic Acid Labile Surfactant I (ZALS I)

- Critical Micellar Concentration (CMC)
ZALS I: CMC = 3.4mM
- Recommended concentrations for usage: 0.01 - 0.1%

Progenta™ Zwitterionic Acid Labile Surfactant II (ZALS II)

- Critical Micellar Concentration (CMC)
ZALS II: CMC=31.3mM
- Recommended concentrations for usage: 0.01-0.1%

ORDERING INFORMATION:

Progenta™ Zwitterionic Acid Labile Surfactant I (ZALS I)

Catalog Number	Size
ALS-200-5mg	5 mg
ALS-200-5x5mg	5x5 mg
ALS-200-10x5mg	10x5 mg

Progenta™ Zwitterionic Acid Labile Surfactant II (ZALS II)

Catalog Number	Size
ALS-210-5mg	5 mg
ALS-210-5x5mg	5x5 mg
ALS-210-10x5mg	10x5 mg

Progenta Cationic Acid Labile Surfactant

Progenta Cationic Acid Labile Surfactants (CALs) are novel, acid cleavable detergents that are fully compatible with mass spectrometry analysis. The Progenta CALs have been engineered to provide a safe alternative to detergents that are commonly used in proteomics work, but that negatively impact subsequent analysis by mass spectrometry. While other detergents can improve protein solubility, they can be very difficult to remove during sample prep and purification of the protein sample. These bound detergents can cause significant impairment of protein analysis by mass spectrometry, as the surfactants can suppress analyte ion signal, promote analyte adduct formation, and present as contaminants during the analysis.

The Progenta Cationic Acid Labile Surfactants are fully mass spec compatible and alleviate the problems commonly associated with other detergents in proteomics studies. At neutral pH, the Progenta CALs function as a powerful detergent for use in sample preparation, protein solubilization, and cell lysis protocols. After completing the experimental work, the solution is adjusted to a pH of 2.0 with trifluoroacetic acid (TFA) and incubated for 30 minutes at room temperature to cleave the CALs into small organic molecules that do not exhibit surfactant activity or interfere with analysis by mass spectrometry. Other commercially available acid labile surfactants require incubation in harsher acidic environments of pH 1.0 to 2.0 for up to several hours and may produce an oily pellet or film from the cleavage by-products. Progenta CALs has been specially engineered to provide powerful surfactant performance with the added benefit of quick, simple acid-based detergent cleavage and removal for reproducible results in mass spectrometry-based proteomics studies.

Both Progenta Cationic Acid Labile Surfactants are effective at solubilizing peptides and proteins, functioning in cell lysis protocols, optimizing enzymatic digestions, and reducing surface adsorption losses via non-specific interactions. CALs I has a Critical Micelle Concentration (CMC) of 3.5 mM. CALs II has a shorter hydrophobic tail, yielding a less powerful CMC of 12.8 mM. Both CALs I and II exhibit fast, efficient degradation kinetics at acidic pH 2.0.

FEATURES:

- Rapidly cleaved in just 30 minutes 1% TFA, pH 2.0
- CALs cleavage products are fully soluble and do not interfere with mass spectrometry analysis
- Promotes protein solubility and improves enzymatic digestion
- Certified Mass Spec Grade

RESEARCH APPLICATIONS:

- Solubilization of proteins and other biomolecules
- Sample preparation and solid phase extraction
- Improved enzymatic digestion of proteins
- Cell Lysis and protein extraction from cell lines, tissues, and biological samples
- Reversed polarity gel electrophoresis and electroelution buffers
- Extraction of biomolecules from environmental samples

SPECIFICATIONS:

Progenta™ Cationic Acid Labile Surfactant I (CALs I)

- Critical Micellar Concentration (CMC)
CALs I: CMC= 3.5mM
- Recommended concentrations for usage: 0.01-1.0%

Progenta™ Cationic Acid Labile Surfactant II (CALs II)

- Critical Micellar Concentration (CMC)
CALs II: 12.8mM
- Recommended concentrations for usage: 0.01-1.0%

ORDERING INFORMATION:

Progenta™ Cationic Acid Labile Surfactant I (CALs I)

Catalog Number	Size
ALS-300-5mg	5 mg
ALS-300-5x5mg	5x5 mg
ALS-300-10x5mg	10x5 mg

Progenta™ Cationic Acid Labile Surfactant II (CALs II)

Catalog Number	Size
ALS-310-5mg	5 mg
ALS-310-5x5mg	5x5 mg
ALS-310-10x5mg	10x5 mg

Progenta Acid Labile Surfactant Assortments

ORDERING INFORMATION:

Progenta Acid Labile Surfactant Assortment I

Contains 5 mg each of the Progenta Anionic Acid Labile Surfactants [AALS] I and II (ALS-100 and ALS-110), the Cationic Acid Labile Surfactants [CALs] I and II (ALS-300 and ALS-310), and the Zwitterionic Acid Labile Surfactants [ZALS] I and II (ALS-200 and ALS-210)

Catalog Number	Size
ALS-500	1 pack

Progenta Acid Labile Surfactant Assortment II

Contains 5 mg each of the Progenta Anionic Acid Labile Surfactants [AALS] I and II (ALS-100 and ALS-110) and the Zwitterionic Acid Labile Surfactants [ZALS] I and II (ALS-200 and ALS-210)

Catalog Number	Size
ALS-501	1 pack

Progenta Acid Labile Surfactant Assortment III

Contains 5 mg each of the Progenta Anionic Acid Labile Surfactants [AALS] I and II (ALS-100 and ALS-110) and the Cationic Acid Labile Surfactants [CALs] I and II (ALS-300 and ALS-310)

Catalog Number	Size
ALS-502	1 pack

Progenta Acid Labile Surfactant Assortment IV

Contains 5 mg each of the Progenta Cationic Acid Labile Surfactants [CALs] I and II (ALS-300 and ALS-310) and the Zwitterionic Acid Labile Surfactants [ZALS] I and II (ALS-200 and ALS-210)

Catalog Number	Size
ALS-503	1 pack

10X TBS Solution (Tris-buffered saline)

Tris-buffered saline is a buffer commonly used for biochemical and molecular biology applications. It is used in applications such as cell lysis, ELISA, Western blotting, and other immunoassays. Tris-buffered saline is used to imitate physiological conditions at a pH value ranging from 7.4-8.0.

FEATURES:

- Phosphate free - Does not interfere with western blotting conditions
- Useful for imitation of physiological conditions

RESEARCH APPLICATIONS:

- ELISA
- Western blotting
- Cell lysis
- Immunoassays

SPECIFICATIONS:

- Colorless liquid
- This product is for R&D use only; it is not for drug, household, or other uses.

ORDERING INFORMATION:

10X TBS Solution (Tris-buffered saline)

Catalog Number	Size
SP-840-50mL	50 mL

SDSaway - Reagent for SDS Removal

SDSaway™ reagent is a valuable tool for removing SDS detergent from protein samples. The presence of SDS in biological samples imparts a negative charge to the tightly-bound SDS-protein complex, inhibits enzymatic activity during digestion, and both suppresses ion signals and presents as a contaminant in mass spectrometry analyses.

SDSaway can be used with standard centrifugal ultrafiltration tubes for clean-up of protein samples. The specially designed formulation of SDSaway permits removal of the tightly bound SDS molecules from the sample proteins. The freed detergent molecules are then swept away by passing through the molecular weight cut-off membrane in the ultrafiltration device; however, this reagent is incompatible with reversed phase SPE.



FEATURES:

- Formulated to solvate SDS detergent from the protein surface
- Improves sample quality for downstream MS analysis
- Fast and simple removal of SDS detergent from protein samples

RESEARCH APPLICATIONS:

- Analysis of proteins electroeluted from SDS-PAGE gels
- Digestion and LC-MS/MS analysis of proteins in an SDS buffer
- Purification of proteins from cell and tissue lysis protocols utilizing SDS detergent for membrane solubilization
- Clean up of environmental protein samples that use SDS in the extraction and solubilization buffer

ORDERING INFORMATION:

SDSaway Detergent Removal Reagent

Catalog Number	Size
PM-100-25mL	25 mL
PM-100-100mL	100 mL

SDSaway Detergent Removal Protein Prep Kit, 5 kDa

Includes 25 mL SDSaway reagent and (10) 3 kDa ultrafiltration tubes. For proteins over 5 kDa

Catalog Number	Size
SP-001	1 Kit

SDSaway Detergent Removal Protein Prep Kit, 10 kDa

Includes 25 mL SDSaway Reagent and (10) 10 kDa MWCO Ultrafiltration Tubes. For proteins over 30 kDa

Catalog Number	Size
SP-002	1 Kit

SPECIFICATIONS:

Reagent	Not Compatible	Compatible
Acetic Acid (10 %)		XX
Acetone (20 %)		XX
Acetonitrile (20 %)		XX
Ammonium Hydroxide (1 N)		XX
Ethanol (70 %)		XX
Ethyl Acetate	XX	
Methanol (70 %)		XX
Phosphate Buffer		XX
Sodium Hydroxide (1 N)		XX
Sodium Hypochlorite (0.05 %)		XX
Sulfuric Acid (1 N)		XX
Tris Buffer		XX
Urea (6 M)		XX

Ultrafiltration tubes

Includes (20) 1.5 mL tubes & (10) 3 kDa ultrafiltration reservoirs

Catalog Number	Size
SP-021	1 Set

Ultrafiltration tubes

Includes (20) 1.5 mL tubes & (10) 10 kDa ultrafiltration sample reservoirs

Catalog Number	Size
SP-022	1 Set