

CERTIFICATE OF ANALYSIS
Pierce® ESI Negative Ion Calibration Solution, 10 mL
Product Number: 88324

Lot Number: 3213933

Expiration: February 12, 2027

Summary:

The Thermo Scientific Pierce ESI Negative Ion Calibration Solution is a ready-use-liquid formulation for the calibration of Thermo Scientific ion traps, Exactive and Orbitrap mass spectrometers. The only additional materials needed are a 500 microliter Hamilton syringe and liquid infusion line, both supplied with the instrument.

Important Product Information:

- For best results, flush the syringe and infusion line with 50 % methanol before use.
- No additives are required for the use of this calibration solution. Approximately 500 µL of solution are required for complete calibration

Storage:

Upon receipt store at 2 – 8 °C.

Formulation:

Sodium Dodecyl Sulfate (29µg), Sodium Taurocholate (54 µg), and Ultramark 1621 (0.001%) in a solution of 50% Acetonitrile/ 25% Methanol/ 24% Water/ 1% Acetic Acid per 10 mL of solution.

Visual:

Clear, Colorless liquid

Components:	Specification	Results
Ultramark 1621	Purity ≥ 95.0%	Conforms
Sodium Dodecyl Sulfate	Purity 99.5 – 100.5%	Conforms
Sodium Taurocholate	Purity ≥ 95%	Conforms
Acetonitrile	Purity ≥ 99.9%	Conforms
Methanol	Purity ≥ 99.9%	Conforms
Acetic Acid	Purity ≥ 99.7%	Conforms
Water	LC-MS Grade	Conforms

Instruments:

LTQ series
 LTQ Orbitrap™ series
 LTQ Velos™ series
 LTQ Orbitrap Velos series
 Exactive™

Related Thermo Scientific Products:

88321 Pierce Peptide Retention Time Calibration Mixture, 200 µL
 88322 Pierce LTQ ESI Positive Ion Calibration Solution, 10 mL
 88323 Pierce LTQ Velos ESI Positive Ion Calibration Solution, 10 mL
 88325 Pierce Triple Quadrupole Calibration Solution, 10 mL

Additional information:

For MSDS please visit
www.thermoscientific.com/pierce

For calibration procedure use

LTQ Series Getting Started Guide (97055-97073)
 LTQ Orbitrap Velos Getting Started Tune Plus 2.6 (1250590)
 LTQ Orbitrap XL™ Getting Started Tune Plus 2.5.5 (1225841)
 Exactive Operating Manual (1249360)

Technical Support:

For Hardware related support call
 1-800-532-4752
 For Reagent support call
 1-800-874-3723

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 Timothy Morton, Sr. Quality Chemist,
 Mass Spectrometry

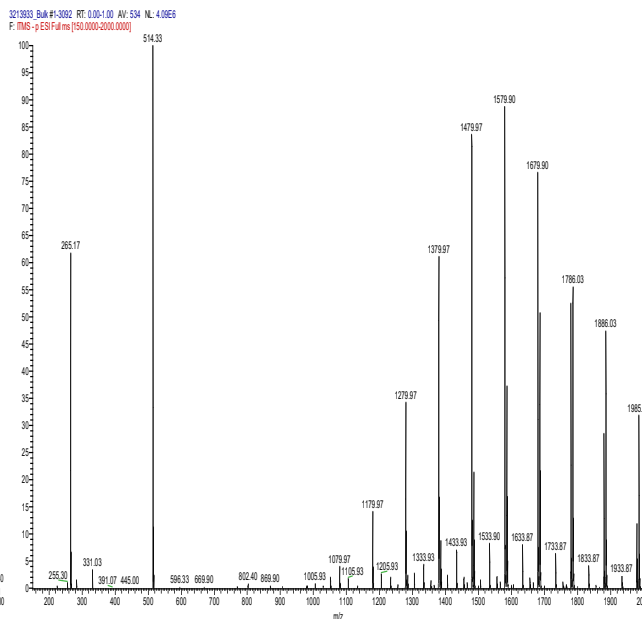
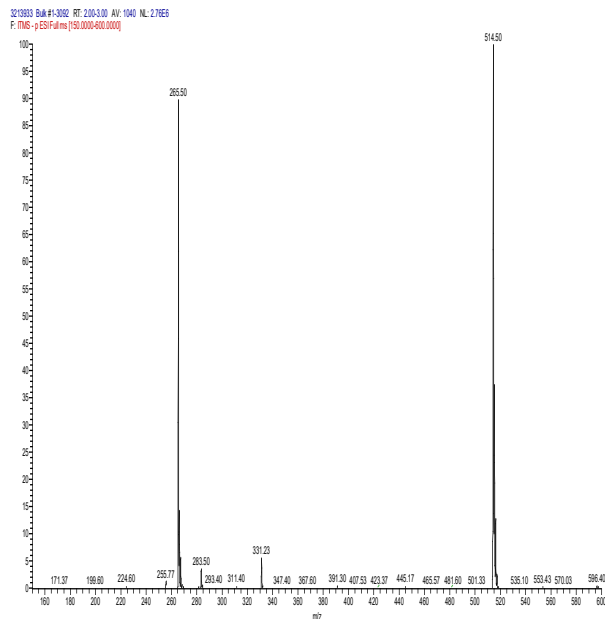


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Analysis:	Specification	Results
Relative Intensity (Ratio to the Reference Standard) 265 (SDS) 514 (Taurocholate) 1380 (Ultramark) 1480 (Ultramark) 1580 (Ultramark) 1680 (Ultramark)	265 Ratio = 0.2 – 2.0 514 Ratio = 0.2 – 2.0 1380 Ratio = 0.2 – 2.0 1480 Ratio = 0.2 – 2.0 1580 Ratio = 0.2 – 2.0 1680 Ratio = 0.2 – 2.0	265 Ratio = 1.0 514 Ratio = 1.1 1380 Ratio 1.2 1480 Ratio = 1.2 1580 Ratio = 1.2 1680 Ratio = 1.2
% Intensity (Relative to the 1580 Peak) 265 (SDS) 514 (Taurocholate) 1380 (Ultramark) 1480 (Ultramark) 1680 (Ultramark)	265 = 60 – 105% 514 = 50 – 125% 1380 = 50 – 100% 1480 = 75 – 125% 1680 = 60 – 110%	% Intensity (265 ion) = 70 % % Intensity (514 ion) = 113 % % Intensity (1380 ion) = 69 % % Intensity (1480 ion) = 94 % % Intensity (1680 ion) = 87 %
Baseline Noise Ions (m/z) 265 (SDS) 514 (Taurocholate) 1380 (Ultramark) 1480 (Ultramark) 1580 (Ultramark) 1680 (Ultramark)	No ions present in the Relative Intensity Spectra scan (+/-) 3 m/z at: 265: > 15% 514: > 15% 1380: > 15% 1480: > 15% 1580: > 15% 1680: > 15%	265 (+/- 3 m/z): No ions present > 15% 514 (+/- 3 m/z): No ions present > 15% 1380 (+/- 3 m/z): No ions present > 15% 1480 (+/- 3 m/z): No ions present > 15% 1580 (+/- 3 m/z): No ions present > 15% 1680 (+/- 3 m/z): No ions present > 15%



Spectra were acquired on Thermo Scientific Orbitrap™ Eclipse.

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