Preparing Plasma, Serum or Cell Growth Media Samples for Nuclear Magnetic Resonance (NMR) Analysis

Purpose This procedure provides information on how to prepare plasma, serum or cell growth media samples for nuclear magnetic resonance (NMR) contract analysis.

Materials

Reagents	Supplies	Equipment
• Chenomx Internal Standard (ISTD) (contains 3-Trimethylsilyl-1-propanesulfonic acid-d_6 sodium salt (DSS-d6), 0.1% Sodium azide (NaN_3), 99.9%v/v Deuterium oxide (D_2O))	• Prepared AMICON ultra 0.5ml - 3KDa filter tube • Eppendorf Tube, 1.5 ml	• Microcentrifuge • Rainin pipette • Vortex • pH meter

Procedure

1. Prepare for sample filtration as outlined in C001 – Preparing an AMICON ultra 0.5ml-3KDa filter tube for filtration.
2. Filter the plasma, serum or cell growth media sample as outlined in C002 - Filtering a Sample through a 3 KDa Filter Tube
3. Prepare the filtered plasma, serum or cell growth media samples for NMR analysis.
   NOTE: The ideal final volumes of samples are 560 µL and 185 µL for 5 mm and 3 mm tubes, respectively. The internal standard must be added as a 1 in 10 (10% v/v) spike to each of your samples.
   Here we have two examples of NMR sample preparation for two different volumes, 700 µL and 300 µL.

700 µL NMR Analysis Preparation

Step	Details
1.	Add 70 µL of Chenomx ISTD to 630 µL of acquired sample or an ISTD volume equivalent to 10% of the total sample volume to each of filtered samples.
2.	Vortex the sample for 30 seconds for uniform mixing.
3.	Read the pH of the samples by using a pH meter. Rinse the pH meter probe thoroughly with distilled water and blot dry with Kimwipes, before moving on to the next sample. Record all pH values in your laboratory notebook.

	Transfer the sample containing Chenomx ISTD into a NMR tube. *(See L001 Transferring samples to NMR tubes)*

300 µL NMR Analysis Preparation

Step	Details
1.	In a labeled Eppendorf tube, add 30 µL of Chenomx ISTD to 270 µL of acquired sample or an ISTD volume equivalent to 10% of the total sample volume to each of filtered samples.
2.	Vortex the sample for 30 seconds for uniform mixing.
3.	Read the pH of the samples by using a pH meter. Rinse the pH meter probe thoroughly with distilled water and blot dry with Kimwipes, before moving on to the next sample. Record all pH values in your laboratory notebook.
4.	Transfer the sample containing Chenomx ISTD into a NMR tube. *(See L001 - Transferring NMR Samples into NMR Tubes)*

References Not applicable

Related Documents L001 - Transferring NMR Samples into NMR Tubes.

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