

Extraction Methods used on Solid samples for EZ:faast Amino Acid Analysis

Cheese:

Suspend 50 mg of cheese powder in 1ml of 25% Acetonitrile in water for 1 hour at 40°C. Filter the top layer using a 0.45µm syringe filter.

Honey:

Dilute Honey sample in deionized water in the ratio of 1:1.

Plant leaves:

Add 0.5 ml of 25% Acetonitrile in 0.01N HCl to 0.5g of dried leaf samples. Vortex the vial for 5-10 min, and place on the bench top to settle for one hour. Filter the top layer using a 0.45µm syringe filter.

Corn Meal:

Mix 50mg of dry powder into 3 ml of 25% Acetonitrile; vortex this mixture until the entire sample is homogenized. Centrifuge the vials for 3 minutes, then filter the top layer using a 0.45µm syringe filter.

Soil sample:

Mix 0.5g of soil sample by vortexing for a few minutes into 25% Acetonitrile in 0.01 M HCl. Centrifuge the vials for 3 minutes, then filter the top layer using 0.4 µm syringe filter.

Tea sample:

Mix well ground tea in boiling water in a ratio of 0.2g: 15ml solvent, and keep at boiling temperature for 4 min. Shake the vials repeatedly and then place on a bench top for the solids to settle. Filter the top layer using a 0.45 µm pore size syringe filter.

Tomato and Potato samples:

Suspend 50mg of dry powder in 1ml of 25% Acetonitrile in 0.01N HCl. Centrifuge the vials for 3 minutes, then filter the top layer using 0.4 µm syringe filter.

An alternative method of extraction suggested in the literature: use 2 ml of Ethanol:0.25M HCl, in the ratio of 80:20) as extracting solvent. In our evaluation extraction with acetonitrile produced higher values for amino acid levels.

Coffee & Wheat:

Suspend 10 g of well ground solid in 150 ml water, and mix for 15 min.
Place the suspended samples on a bench top for the solids to settle. Filter
the top layer using a 0.45 μm pore size syringe filter.

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