

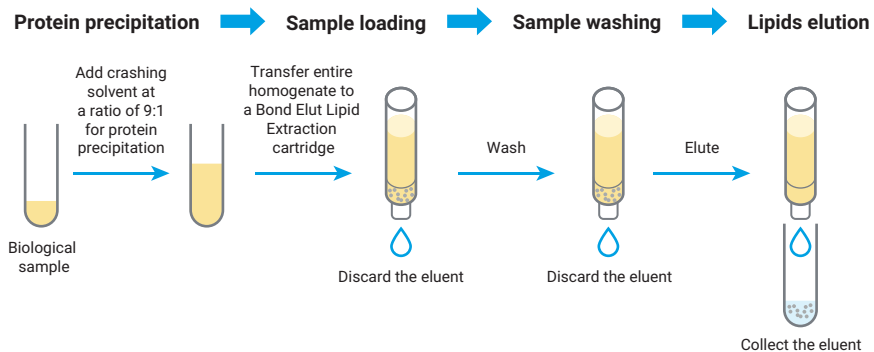


# Agilent Bond Elut Lipid Extraction

## Method guide for 1 mL cartridge

### General instructions

Agilent Bond Elut Lipid Extraction cartridges allow the extraction and isolation of lipids from biological samples such as plasma, cell cultures, and tissue samples. The unique EMR–Lipid sorbent chemistry provides effective and selective retention of lipid compounds on the sorbent. After a washing step, the trapped lipid compounds are eluted with solvent. The 1 mL SPE cartridge format simplifies the extraction process compared to traditional liquid-liquid extraction techniques used for lipid analysis. The workflow provides significant time savings with equivalent extraction efficiency and improved method reproducibility. Bond Elut Lipid Extraction 1 mL cartridges are suitable for small batch sample preparation.



1. **Crashing solvent:** ACN with 1 to 5% MeOH. A small percentage of MeOH helps to generate finer protein precipitates, which allows for easy pipette transfer of the homogenate.
2. **Washing solvent:** a mixture of ACN with 10 to 20% of water.
3. **Elution solvent:** a solution of MeOH with dichloromethane (DCM), chloroform, or 1-chlorobutane. A minimum of 50% MeOH is important for the release of lipids. Agilent recommends DCM/MeOH (v/v 1:2) or chloroform/MeOH (v/v 1:1).

For more information, visit:

[www.agilent.com/chem/BondElutLE](http://www.agilent.com/chem/BondElutLE)

## A recommended Bond Elut Lipid Extraction protocol for plasma extraction

1. Add 100  $\mu$ L of plasma to a 1.5 mL Eppendorf tube.
2. Add 900  $\mu$ L of ACN with 1 to 5% MeOH. Vortex for 30 seconds, and sonicate on ice for 10 minutes.
3. Transfer the entire homogenate to a Bond Elut Lipid Extraction 1 mL cartridge. Apply low vacuum or positive pressure for steady elution. Discard the eluent.
4. Add 2  $\times$  1 mL of ACN/water (v/v 9:1) for wash. Rinse the original sample tube with wash, then transfer it to the cartridge for flowthrough. Apply vacuum or positive pressure as needed for a smooth flow. Discard the eluent.
5. After the wash has eluted, apply higher vacuum or pressure to dry the cartridge. Place a glass collection tube beneath the cartridge.
6. Add 2  $\times$  1 mL of DCM/MeOH (v/v, 1:2) for elution, and collect the eluent.
7. Dry the eluent with  $N_2$  at 30  $^{\circ}$ C.
8. Reconstitute into 100  $\mu$ L of *n*-BuOH/MeOH (v/v, 1:1), vortex for two minutes, and sonicate for 10 minutes.
9. Transfer to a 2 mL vial with an insert, and cap for MS analysis or store in a  $-20$   $^{\circ}$ C freezer.

## Product use tips and tricks

1. Maintain a slow flow rate of approximately 3 to 5 seconds per drop.
2. Use a ratio of 9:1 crashing solvent/plasma for protein precipitation to improve lipid extraction efficiency. The EMR–Lipid sorbent requires a minimum of 10% aqueous in the sample mixture for loading.
3. It is important to transfer the entire homogenate, as lipids can be trapped in the protein precipitate. Do not centrifuge before transferring.
4. Wide bore pipette tips are recommended for transfer.

## Bond Elut Lipid Extraction ordering information

Description	Quantity	Part Number
Agilent Bond Elut Lipid Extraction, 1 mL cartridge	100/pk	5610-2041
Agilent Bond Elut Lipid Extraction, 96-well plate	1 plate	5610-2042
Agilent Bond Elut Lipid Extraction, 96-well plate	5 plates	5610-2043

[www.agilent.com/chem/BondElutLE](http://www.agilent.com/chem/BondElutLE)

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