

Agilent Captiva EMR–Lipid and Captiva EMR–Lipid HF Method Guide

General instructions for 3 and 6 mL cartridge formats:

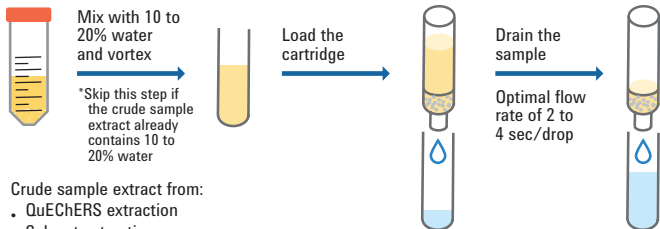
Agilent Captiva EMR–Lipid and Captiva EMR–Lipid HF in 3 and 6 mL cartridges allow simple passthrough removal of lipids, fats, and other interferences from complex fatty samples. These formats accommodate larger volumes of complex sample extracts including those from meat, fish, oils, dairy products, and other foods of animal origin. After completing a QuEChERS or direct solvent extraction, the crude sample extract is mixed with a small volume of water and then loaded onto a Captiva EMR–Lipid or EMR–Lipid HF cartridge for passthrough cleanup. The EMR–Lipid sorbent chemistry provides selective and efficient lipid/matrix removal without negatively impacting analyte recovery. High matrix removal assures minimal ion suppression on target analytes, which significantly improves method reliability and ruggedness.

Captiva EMR–Lipid HF is an excellent choice when a vacuum manifold or positive pressure manifold is not available. Designed for high flow (HF) rates using gravity, this product significantly reduces sample processing time for complex samples such as meat and fish.



Agilent Technologies

Operating instructions and tips for Agilent Captiva EMR–Lipid and Captiva EMR–Lipid HF 3 and 6 mL Cartridges



Crude sample extract from:

- QuEChERS extraction
- Solvent extraction

Acetonitrile is preferred

For Captiva EMR–Lipid:
Gravity or vacuum/positive pressure assisted elution can be used.

For Captiva EMR–Lipid HF:
Gravity flow is recommended.

For both products, we recommend applying high pressure or vacuum at the end to drain the sorbent bed completely.



User Tips

Passthrough cleanup workflow

| | |
|---|--|
| Recommended loading volume (including water premix) | 3 mL (300 mg) cartridge: 2 to 3 mL sample extract mixture 6 mL (600 mg) cartridge: 4 to 6 mL sample extract mixture |
| Preferred extraction methods | QuEChERS, solvent extraction |
| Sample treatment | <p>Premix crude sample extract obtained from QuEChERS or solvent extraction with 10 to 20% water. If hydrophobic target analytes are included, mixing with only 10% water is recommended. If the food sample is extracted with a 80:20 organic/water mixture, no dilution with water is necessary and the crude sample extract can be added directly to the cartridge.</p> <p>Water-miscible solvents are required when using Captiva EMR–Lipid products. Acetonitrile or acidified acetonitrile is the preferred extraction solvent, as it significantly reduces matrix co-extractives relative to methanol. For very hydrophobic targets, a solvent mixture of 80:20 ACN/ethyl acetate can be used to improve extraction efficiency.</p> |
| Steps | <ol style="list-style-type: none">Mix crude sample extract with 10 to 20% water by volume in a separate tube. Mix with a pipette or invert the tube several times. Do not vortex the sample, as it can result in phase separation of the sample mixture.Load the appropriate sample mixture onto the Captiva EMR–Lipid or EMR–Lipid HF cartridge.Allow the extract to flow through the cartridge with flow control. The optimal flow rate is 2 to 4 sec/drop. For Captiva EMR–Lipid, passthrough cleanup is achieved with vacuum/positive pressure or gravity. For Captiva EMR–Lipid HF, passthrough cleanup is achieved with gravity.When the extract reaches the top frit, drain the cartridge by applying high positive pressure or vacuum for 1 to 2 minutes. |
| Additional elution | An additional elution with a mixture of organic/water that matches the original loaded sample (for example: 80:20 ACN/H ₂ O) can improve the recovery of some compounds. |
| Sample post treatment | <p>For LC applications: Dilute with water prior to injection. If concentration is required, dry and reconstitute.</p> <p>For GC applications: Dry with anhydrous MgSO₄ or perform a solvent back extraction with isoctane prior to injection. If concentration is required, dry and reconstitute.</p> |

Agilent Captiva EMR–Lipid ordering information

| Part number | Description | Quantity |
|-------------|--|----------|
| 5190-1003 | Captiva EMR–Lipid cartridge 3 mL 300 mg | 100/pk |
| 5190-1004 | Captiva EMR–Lipid cartridge 6 mL 600 mg | 50/pk |
| 5610-2235 | Captiva EMR–Lipid HF cartridge, 3 mL 300 mg | 100/pk |
| 5610-2236 | Captiva EMR–Lipid HF cartridge, 6 mL 600 mg | 50/pk |

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