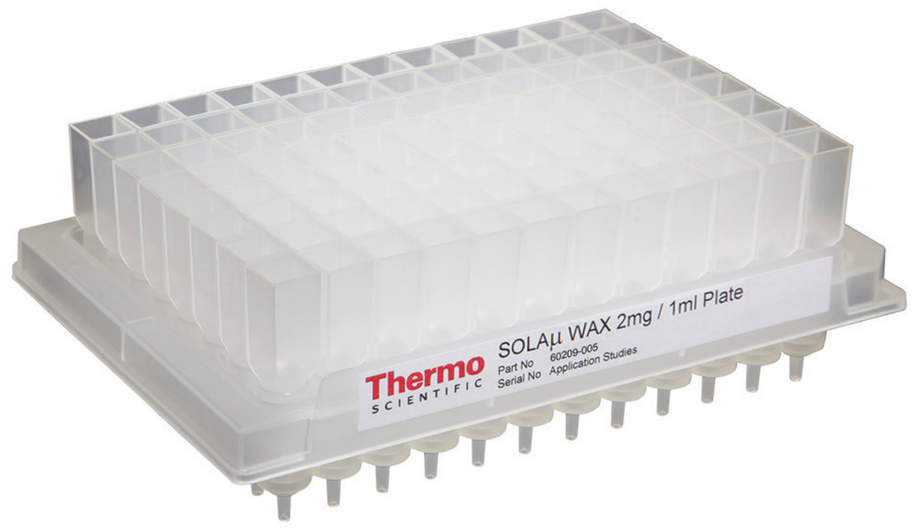
thermo scientific

Solid Phase Extraction (SPE) Method Development for Thermo Scientific SOLA and SOLAμ

Consistent excellence for bioanalysis

Thermo Scientific™ SOLA ™ products are designed for bioanalytical and clinical research analysts who are tasked with providing high-quality analytical results from complex biological samples in a high-throughput environment, while complying with strict legislation. These demands are compounded by the continued push to higher efficacy drugs and long acting formulations which continue to drive sensitive requirements to lower levels to enable accurate quantification.

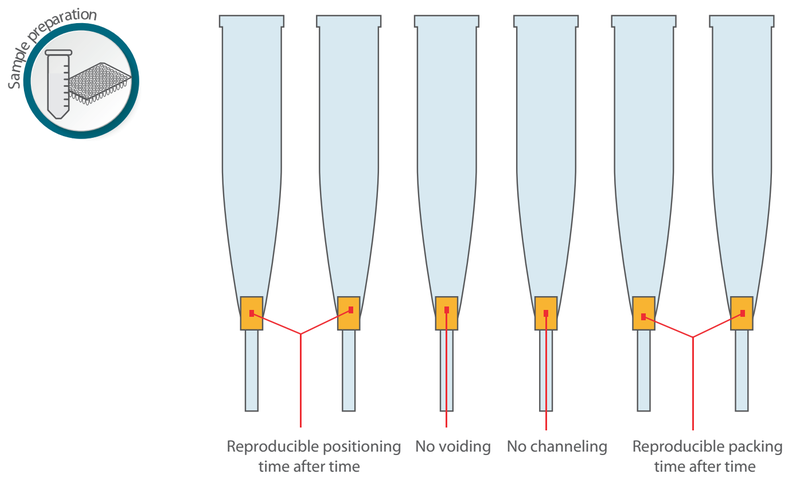


In order to meet these demands, bioanalytical methods must provide:

- Robustness – low analytical failure rates
- Ability to process low sample volumes
- High sensitivity
- High reproducibility
- Ease of use
- High throughput processing
- Efficient and fast processes

Acidic Compounds		Neutral Compounds	Basic Compounds	
Strong Acids	Weak Acids	Neutral Compounds	Weak Bases	Strong Bases
(pK_a < 2)	(pK_a 2-4)		(pK_a 8-10)	(pK_a > 10)

The SOLA SPE range meets these demands due to the unique and innovative frit-less SPE technology which eliminates the issues with traditional loose-packed SPE formats (see figure to the right)Combining the support material and active media components into a solid,uniform sorbent bed provides stable and controllable flow through characteristics and has an added advantage when dealing with viscous biological samples, as it prevents blocking and enables high throughput processing.



The manufacturing process also allows for high levels of reproducibility, not only from cartridge to cartridge or well to well but also batch to batch. The Thermo Scientific ™ SOLAμ™ SPE range has the added benefit of being able to provide:

- Up to a 20 fold increase in sensititvity
- Ability to process samples restricted in volume
- Increased workflow efficiency and sample integrity

SOLA WAX	SOLA SAX	SOLA HRP	SOLA SCX	SOLA WCX
Mixed mode weak anion exchange	Mixed mode strong anion exchange	Reversed phase	Mixed mode strong cation exchange	Mixed mode weak cation exchange
Generic method protocol for cartridge and 96 well plate formats				
Condition: 500 µL methanol	Condition: 500 µL methanol	Condition: 500 µL methanol	Condition: 500 µL Methanol	Condition: 500 µL methanol
Equilibrate: 500 µL water with 1% formic acid	Equilibrate: 500 µL water with 1% ammonium hydroxide	Equilibrate: 500 µL Water	Equilibrate: 500 µL Water with 1% formic acid	Equilibrate: 500 µL water with 1% ammonium hydroxide
Load: 50-500 µL of sample at 1 mL/min	Load: 50-500 µL of sample at 1 mL/min with 1% ammonium hydroxide	Load: 50-500 µL of sample at 1 mL/min	Load: 50-500 µL of sample at 1 mL/min with 1% formic acid	Load: 50-500 µL of sample at 1 mL/min with 1% ammonium hydroxide
Wash 1: 500 µL water	Wash 1: 500 µL water with 1% ammonium hydroxide	Wash 1: 500 µL 5% Methanol in water	Wash 1: 500 µL Water with 1% formic acid	Wash 1: 500 µL water with 1% ammonium hydroxide
Wash 2: 500 µL methanol	Wash 2: 500 µL methanol with 1% ammonium hydroxide		Wash 2: 500 µL Methanol with 1% formic acid	Wash 2: 500 µL methanol with 1% ammonium hydroxide
Elute: 200-500 µL methanol with 1% ammonium hydroxide	Elute: 200-500 µL methanol with 1% formic acid	Elute: 200-500 µL Methanol	Elute: 200-500 µL Methanol with 1% ammonium hydroxide	Elute: 200-500 µL methanol with 1% formic acid

SOLAμ 96 Well Plates

Description	Bed weight	Well volume	Cat. no.	Quantity
SOLAμ HRP	2 mg	1 mL	60209-001	1 each
SOLAμ SCX	2 mg	1 mL	60209-002	1 each
SOLAμ SAX	2 mg	1 mL	60209-003	1 each
SOLAμ WCX	2 mg	1 mL	60209-004	1 each
SOLAμ WAX	2 mg	1 mL	60209-005	1 each

SOLA SPE Cartridges

Description	Bed weight	Well volume	Cat. no.	Quantity
SOLAμ HRP	10 mg	1 mL	60109-001	100 pack
SOLAμ SCX	10 mg	1 mL	60109-002	100 pack
SOLAμ SAX	10 mg	1 mL	60109-003	100 pack
SOLAμ WCX	10 mg	1 mL	60109-004	100 pack
SOLAμ WAX	10 mg	1 mL	60109-005	100 pack

SOLA 96 Well Plates

Description	Bed weight	Well volume	Cat. no.	Quantity
SOLAμ HRP	10 mg	2 mL	60309-001	1 each
SOLAμ SCX	10 mg	2 mL	60309-002	1 each
SOLAμ SAX	10 mg	2 mL	60309-003	1 each
SOLAμ WCX	10 mg	2 mL	60309-004	1 each
SOLAμ WAX	10 mg	2 mL	60309-005	1 each

Find out more at thermofisher.com/sola-spe

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