

General bioanalytical methods with BioTrap 500 MS when combined with mass spectrometry

BioTrap 500 MS is a new online extraction column designed for MS detection. The new column is not silica based and can be used in a wider pH range from 2 to 10, however, avoid use between pH 3 to 5 for the extraction of serum/plasma. Plasma proteins are more easily precipitated in this pH range. It has nothing to do with the stability of the column. This wider pH range makes possible the extraction of basic compounds at high pH and acidic compounds at low pH. Under those conditions the compounds can be extracted in the uncharged form. This means that no ion-pair agent is needed in order to obtain high recovery and efficiency, which makes BioTrap 500 MS a very suitable online extraction column when using MS detection. By combining the new extraction column and MS detection more or less general bioanalytical methods are obtained.

BioTrap 500 MS can also be used together with fluorescence, UV and EC-detection.

When to use BioTrap C18 or C8

The BioTrap C8/C18 columns can be used between pH 2.3 to 7.5, however, as stated above, avoid use between pH 3 to 5 due to the risk of precipitation of plasma proteins during extraction. The BioTrap 500 C8 material gives different retention characteristics than the BioTrap C18 material. The C8 material should be used for the most hydrophobic analytes that give high enough recovery on this material. This means that higher selectivity can be generated in the extraction step for the type of analytes.

BioTrap Extraction Method

- Economical and time saving
- No manual sample preparation
- Very high accuracy and precision
- Automated bioanalysis

The method enables direct injection of plasma/serum without any time consuming clean-up procedures.

The extraction method with BioTrap 500 is easy to use in a conventional HPLC equipment. Fully automated methods can be developed very fast using the general extraction procedures.

Offline sample preparation method	BioTrap 500 (Online sample preparation method)
Serum/plasma	Serum/plasma
↓	↓
Conditioning of extraction column	Centrifugation of sample
↓	↓
Application of sample	Injection onto the BioTrap 500 column in the HPLC system
↓	
Elution of sample matrix	
↓	
Concentration of extract	
↓	
Injection onto an analytical HPLC column for separation	

We recommend the BioTrap MS column as the first choice. This column gives very good chromatographic performance and a very good recovery. The BioTrap MS column uses general extraction methods for basic and acidic analytes.

See page 86 for BioTrap applications.

BioTrap 500 MS

Cat. No.	Description
BMS134C	BioTrap 500 MS, 13x4mm 2 cartridges
BMS134K	BioTrap 500 MS, 13x4mm w/holder
BMS204C	BioTrap 500 MS, 20x4mm 2 cartridges
BMS204K	BioTrap 500 MS, 20x4mm w/holder
BMS202C	BioTrap 500 MS, 20x2mm 2 cartridges
BMS202K	BioTrap 500 MS, 20x2mm w/holder

BioTrap 500 MS Kits include:

BT-KIT10	13x4.0mm (MS), 20x4.0mm (MS), holder
BT-KIT13	13x4.0mm (MS), 20x4.0mm (MS), holder, filter holder, 5 filters
BT-KIT11	13x4.0mm (MS), holder, filter holder, 5 filters
BT-KIT12	20x4.0mm (MS), holder, filter holder, 5 filters

BioTrap 500 C18

B18134C	BioTrap 500 C18, 13x4mm 2 cartridges
B18134K	BioTrap 500 C18, 13x4mm w/holder
B18204C	BioTrap 500 C18, 20x4mm 2 cartridges
B18204K	BioTrap 500 C18, 20x4mm w/holder
B18202C	BioTrap 500 C18, 20x2mm 2 cartridges
B18202K	BioTrap 500 C18, 20x2mm w/holder

BioTrap 500 C18 Kits include:

BT-KIT1	13x4.0mm (C18), 20x4.0mm (C18), holder
BT-KIT4	13x4.0mm (C18), 20x4.0mm (C18), holder, filter holder, 5 filters
BT-KIT2	13x4.0mm (C18), holder, filter holder, 5 filters
BT-KIT3	20x4.0mm (C18), holder, filter holder, 5 filters

BioTrap 500 C8

B8134C	BioTrap 500 C8, 13x4mm 2 cartridges
B8134K	BioTrap 500 C8, 13x4mm w/holder
B8204C	BioTrap 500 C8, 20x4mm 2 cartridges
B8204K	BioTrap 500 C8, 20x4mm w/holder
B8202C	BioTrap 500 C8, 20x2mm 2 cartridges
B8202K	BioTrap 500 C8, 20x2mm w/holder

BioTrap 500 C8 Kits include:

BT-KIT5	13x4.0mm (C8), 20x4.0mm (C8), holder
BT-KIT8	13x4.0mm (C8), 20x4.0mm (C8), holder, filter holder, 5 filters
BT-KIT6	13x4.0mm (C8), holder, filter holder, 5 filters
BT-KIT7	20x4.0mm (C8), holder, filter holder, 5 filters

Methods Development Kits

BT-KIT14	20x4.0mm (MS), 20x4.0mm (C18), holder, filter holder, 5 filters
BT-KIT15	20x4.0mm (MS), 20x4.0mm (C8), holder, filter holder, 5 filters
BT-KIT16	20x4.0mm (MS), 20x4.0mm (C18), 20x4.0mm (C8), holder, filter holder, 5 filters
BT-KIT9	20x4.0mm (C18), 20x4.0mm (C8), holder, filter holder, 5 filters

Accessories

BT-CH2	Holder with endfittings 2mm, 2/pk
BT-CH4	Holder with endfittings 4mm, 2/pk
A-430	Biocompatible filter assembly, 2µm
A-429X	PEEK filter end fittings, 2µm, 10/pk