

Electronic Supplementary Material

Detection of donepezil concentration in serum by solid-phase extraction liquid chromatography-mass spectrometry based on magnetic molecularly imprinted polymer

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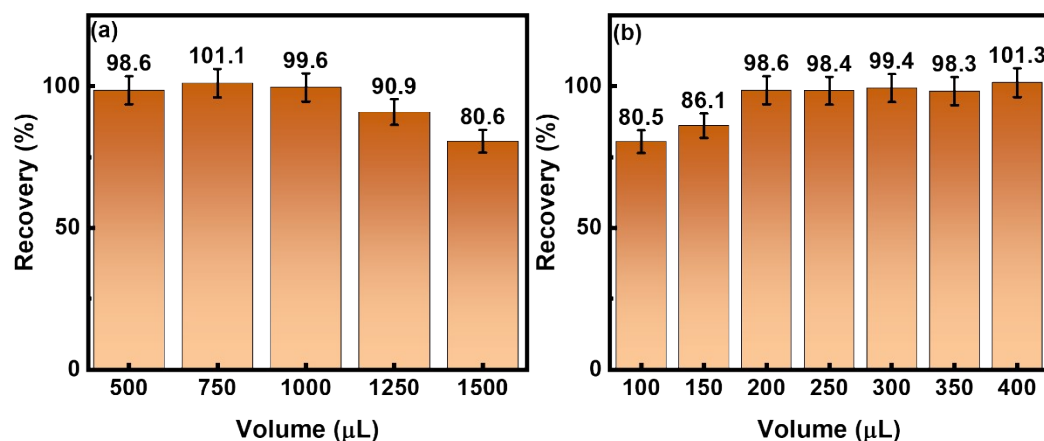


Fig. S1 Effect of the (a) the sample volume, and (b) eluent volume on the recovery of donepezil. Conditions: contact time 10 minutes, MMIP dosage 15 mg, and sample volume 1.0 ml. The mean and S.D. are obtained from the triplicate experiment.

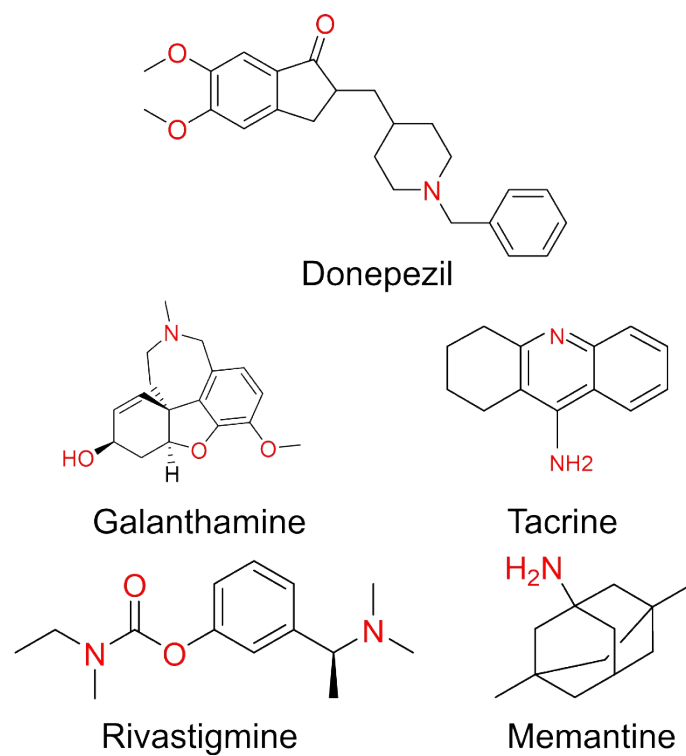


Fig. S2 Molecular structure of donepezil and its analogues.

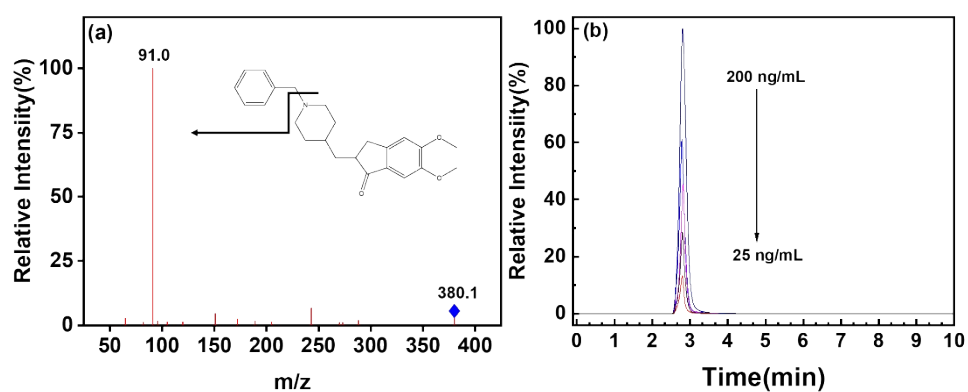


Fig. S3 Mass spectra of product ions of donepezil (a) and chromatograms of serum samples at different concentrations (b).

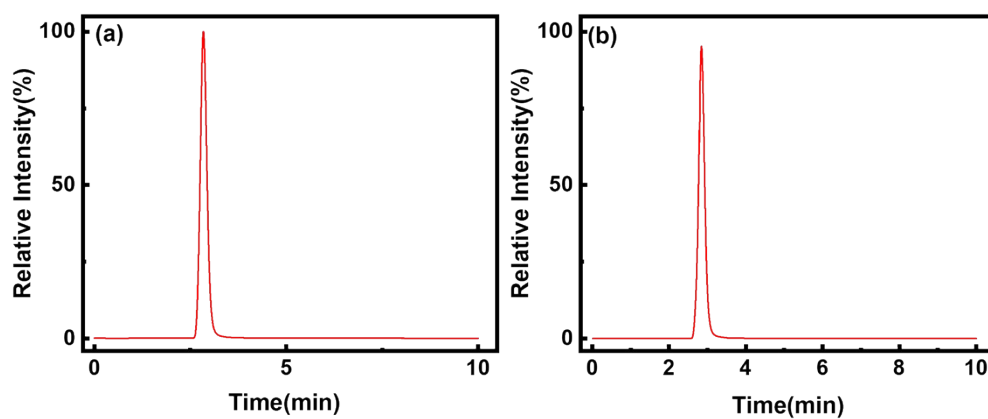


Fig. S4 (a) Chromatogram of a standard sample without treatment (b) Chromatogram of a serum sample at the same concentration obtained by magnetic solid-phase extraction

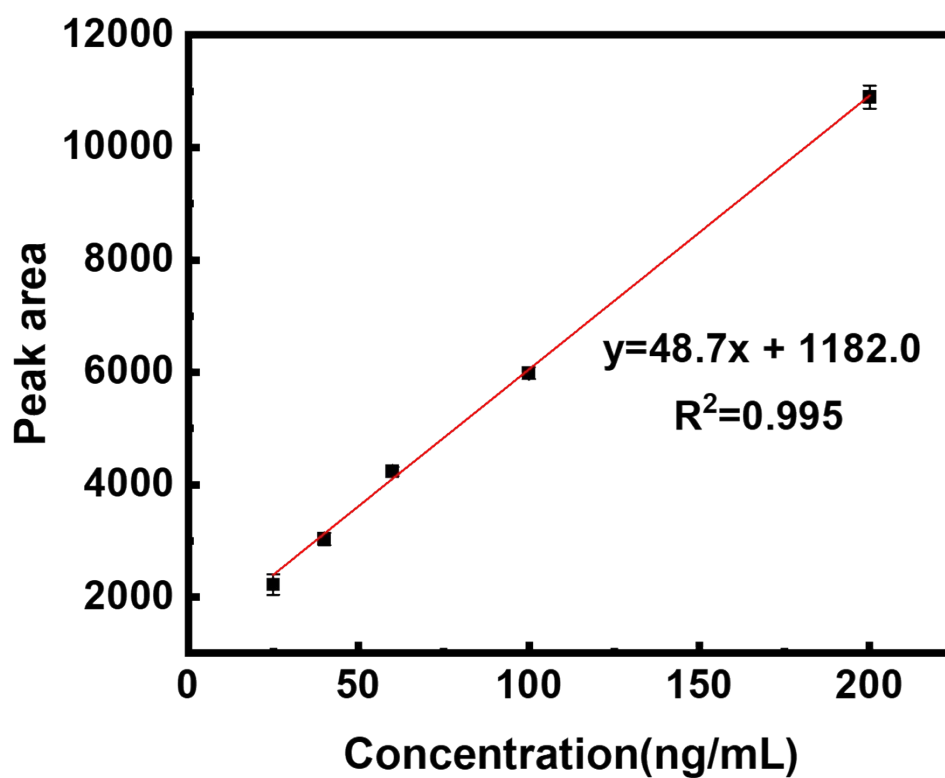


Fig. S5 Standard curve of donepezil in serum. The mean and S.D. are obtained from the triplicate experiment.

Table S1 Ion Source Parameter.

Parameter	Value
Sheath Gas Flow	11.0 L/min
Sheath Gas Temp	250°C
Nebulizer	20.0 psi
Gas Flow	14.0 L/min
Gas Temp	200°C
Capillary	3000 V
Declustering Potential	1500 V

Table S2 Performances of the proposed method and other reported methods to determine donepezil.

Method	Sample	pre-treatment time	Linear range	LOD	LOQ	Ref.
Protein Precipitation-UHPLC-MS/MS	Human plasma	35 min	0.2-50 ng/mL	0.2 ng/mL	0.2 ng/mL	1
SPE-LC-MS/MS	Human plasma	40 min	0.5-100 ng/mL	0.5 ng/mL	0.5 ng/mL	2
SPE-LC-MS/MS	Rat plasma	35 min	0.2-400 ng/mL	0.2 ng/mL	0.2 ng/mL	3
LLE-LC-MS/MS	Rat plasma	50 min	0.5-1000 ng/mL	0.5 ng/mL	0.5 ng/mL	4
LLE-HPLC-MS/MS	Human plasma	60 min	0.1-50 ng/mL	0.1 ng/mL	0.5 ng/mL	5
MMSPE-LC-MS/MS	Human serum	25 min	25-200 ng/mL	0.33 ng/mL	2.95 ng/mL	This work

Reference

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