LC–MS[3] strategy for quantitative analysis of lamotrigine by Q-Q-Trap tandem mass spectrometry coupled with triple stage fragmentation to enhance sensitivity and selectivity

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The Supporting Information included method validation for analysis of lamotrigine and table S1.

Table S1.The concentration of lamotrigine in 25 human plasma samples analyzed by LC-MRM and LC-MS[3].

Method validation for analysis of lamotrigine.

Selectivity was proved using blank plasma samples from six human, which were individually analyzed and evaluated for interference. In addition, cross-talk and carryover phenomena among MS/MS channels were evaluated by injecting analytes and IS, separately, at the highest concentrations of the calibration curve and monitoring the responses in the other MS/MS channels. Linearity was evaluated by linear least-squares regression with a weighting index of $1/x^2$ of calibration curves based on peak area ratios of analyte : IS prepared in duplicate on three separate days. Accuracy (as relative error (R.E.)) and intra- and inter-day precision (as relative standard deviation (R.S.D.) were based on assay of six replicate QC samples on three different days. The lower limit of quantitation (LLOQ) was defined as the lowest concentration that could be determined with accuracy±20% and precision < 15%. Matrix effects were evaluated by comparing peak areas of analytes and IS in post-extraction spiked samples with those in standard solutions. Recovery was determined by comparing peak areas of QC samples with those of post-extraction blank plasma spiked at corresponding concentrations. Stability of analytes in human plasma was evaluated in QC samples placed on storage for 20 days at -80°C, for 2 h at room temperature (25°C) and after three freeze/thaw cycles. Stability of analytes in processed samples on storage in autosampler vials at 4°C for 8 h was also evaluated.

Table S1.The concentration of lamotrigine in 25 human plasma samples analyzed by LC-MRM and LC-MS^3.

	MRM	MS^3	%
SAMPLE1	4.70	5.23	89.9
SAMPLE2	13.1	13.0	100.8
SAMPLE3	6.68	6.83	97.8
SAMPLE4	1.86	2.17	85.7
SAMPLE5	3.15	4.2	75.0
SAMPLE6	3.06	3.32	92.2
SAMPLE7	2.15	1.93	111.4
SAMPLE8	2.59	3.07	84.4
SAMPLE9	2.95	3.11	94.9
SAMPLE10	6.62	7.3	90.7
SAMPLE11	4.69	5.32	88.2
SAMPLE12	2.29	2.49	92.0
SAMPLE13	1.18	1.28	92.2
SAMPLE14	5.93	6.53	90.8
SAMPLE15	4.47	4.11	108.8
SAMPLE16	8.16	9.25	88.2
SAMPLE17	6.71	7.66	87.6
SAMPLE18	6.4	6.38	100.3
SAMPLE19	4.68	4.67	100.2
SAMPLE20	4.05	3.34	121.3
SAMPLE21	2.92	2.54	115.0
SAMPLE22	4.26	4.22	100.9
SAMPLE23	3.45	3.83	90.1
SAMPLE24	1.65	1.9	86.8
SAMPLE25	8.53	6.94	122.9