Supplementary Materials: Development and Evaluation of an Immuno-MALDI-TOF Mass Spectrometry Approach for Quantification of the Abrin Toxin in Complex Food Matrices

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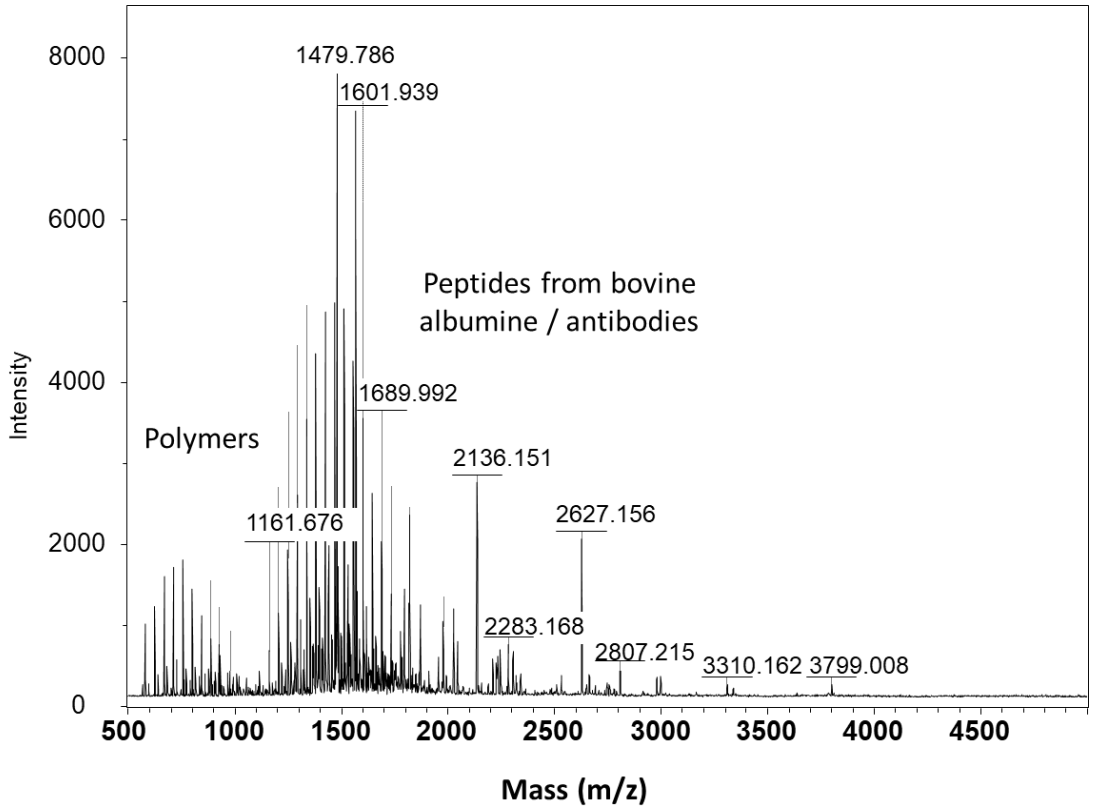

Figure S1. MALDI-TOF spectra of abrin at 250 ng/mL in buffer after immunocapture with on-beads digestion conditions.

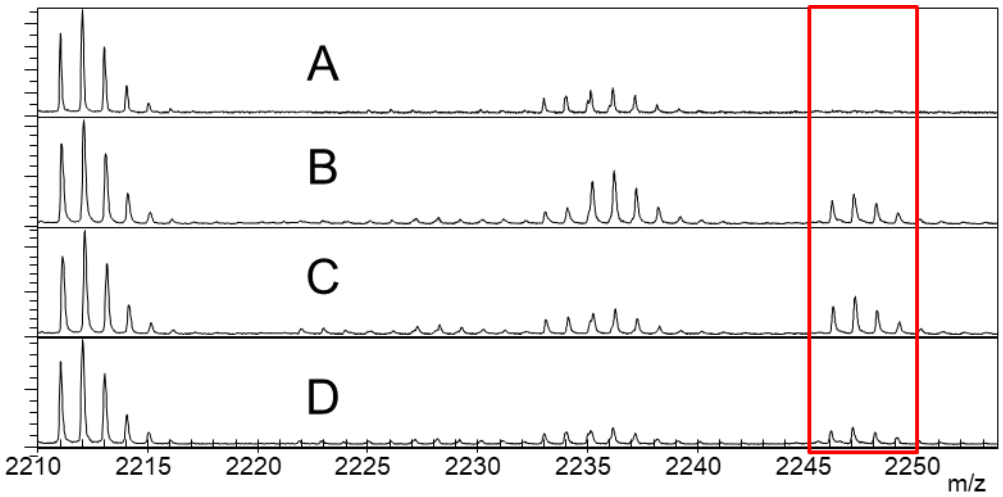

Figure S2. Optimization of abrin elution conditions. The red box indicates the signal of peptide GVQESVQDTFPNQVTLT-NIR. Optimization of elution conditions included elution time (10 or 30 min) or addition of acetonitrile in the elution solvent. Blank sample (A), elution with 90/10 H_2O/ACN containing 0.1% TFA, in 10 min (B), elution with 90/10 H_2O/ACN containing 0.1% TFA, in 30 min (C), elution with 50/50 H_2O/ACN containing 0.1% TFA, in 10 min (D). Final condition: 30 min elution in 90/10 H_2O/ACN containing 0.1%TFA.

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SP|P11140|ABRA_ABRPR ----------------------------------QDRPIKFSTEGATSQSYKQFIEALRE 26
SP|P11140|ABRA_ABRPR RLRGGLIHDIPVLPDPTTLQERNRYITVELSNSDTESIEVGIDVTNAYVVAYRAGTQSYF 86
SP|P11140|ABRA_ABRPR LRDAPSSASDYLFTGTDQHSLPFYGTYGDLERWAHQSRQQIPLGLQALTHGISFFRSGGN 146
SP|P11140|ABRA_ABRPR DNEEKARTLIVIIQMVAEAARFRYISNRVRVSIQTGTAFQPDAAMISLENNWDNLSRGVQ 206
SP|P11140|ABRA_ABRPR ESVQDTFPNQVTLTNIRNEPVIVDSLSHPTVAVLALMLFVCNPPNANQSPLLIRSIVEKS 266
SP|P11140|ABRA_ABRPR KICSSRYEPTVRIGGRDGMCVDVYDNGYHNGNRIIMWKCKDRLEENQLWTLKSDKTIRSN 326
SP|P11140|ABRA_ABRPR GKCLTTYGYAPGSYVMIYDCTSAVAEATYWEIWDNGTIINPKSALVLSAESSSMGGTLTV 386
SP|P11140|ABRA_ABRPR QTNEYLMRQGWRTGNNTSPFVTSISGYSDLCMQAQGSNVWMADCDSNKKEQQWALYTDGS 446
SP|P11140|ABRA_ABRPR IRSVQNTNNCLTSKDHKQGSTILLMGCSNGWASQRWVFKNDGSIYSLYDDMVMDVKGSDP 506
SP|P11140|ABRA_ABRPR SLKQIILWPYTGKPNQIWLTLF 528
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Figure S3. Sequence coverage of abrin at 250 ng/mL by MALDI-TOF. Abrin peptides identified by MALDI-TOF MS are highlighted in green.