SUPPORTING INFORMATION

Biological Tissue Diagnostics using Needle Biopsy and Spray Ionization Mass Spectrometry

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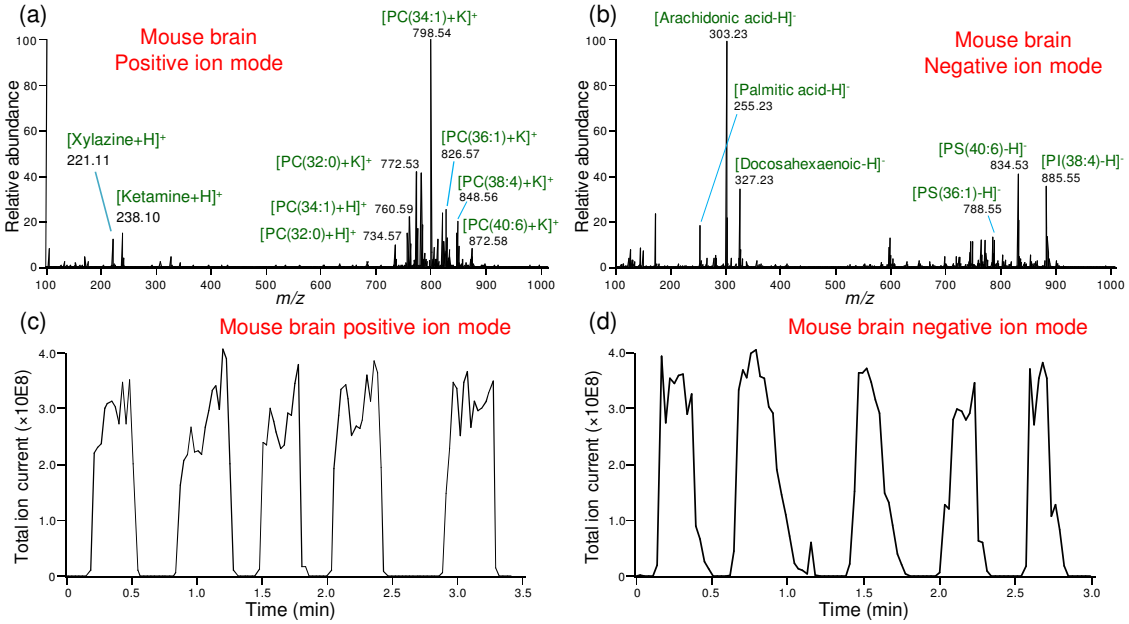

Figure S1. Spectra were obtained in (a) positive and (b) negative ion modes for a tissue sample from mouse brain. Total ion current was also recorded for the same sample in (c) positive and (d) negative ion modes. Methanol (2 μL each time) was used as spray solvent and the test was repeated five times in each mode.

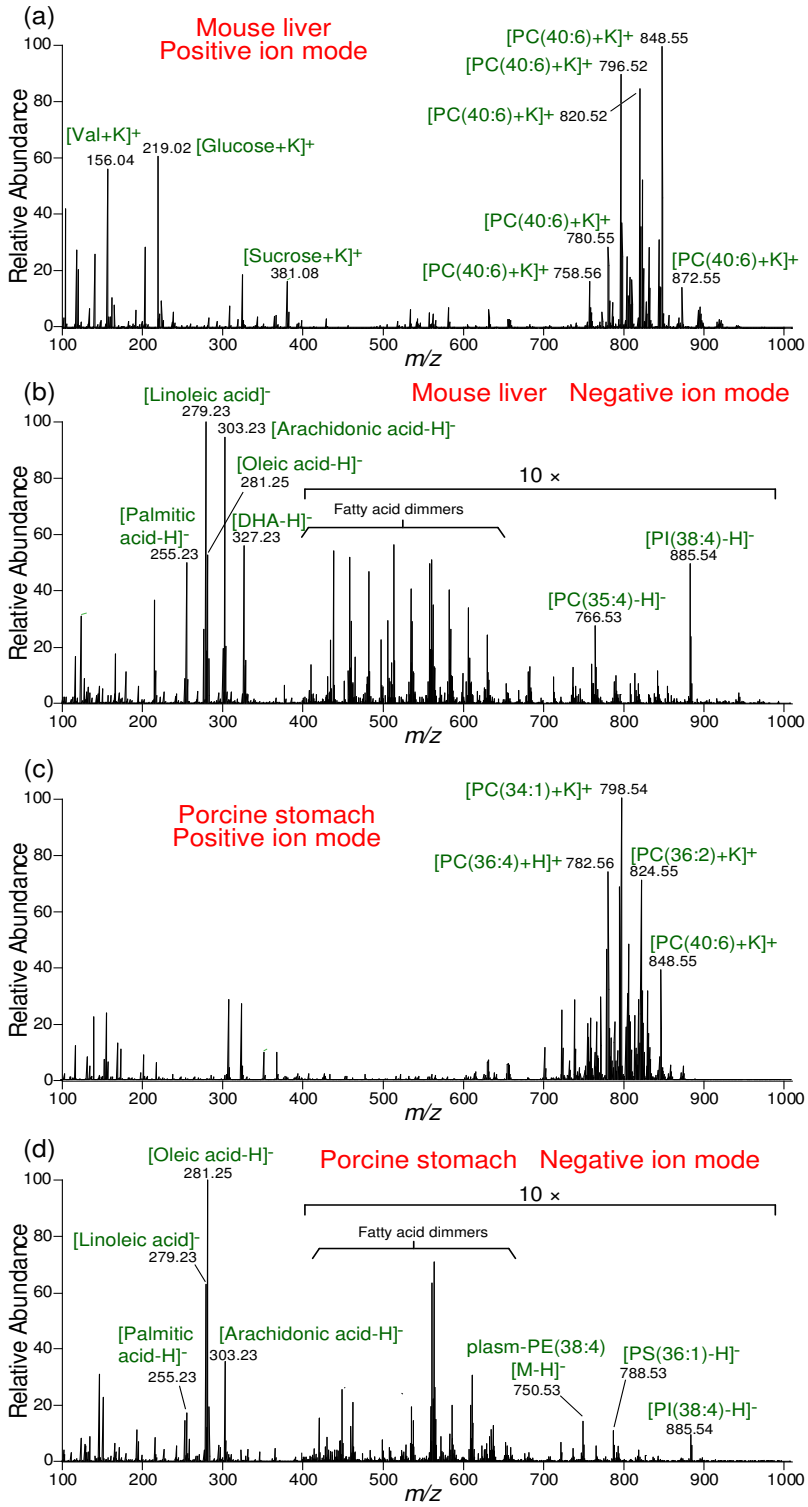

Figure S2. Spectra obtained in both positive and negative ion modes for mouse liver (a and b) and porcine stomach (c and d).

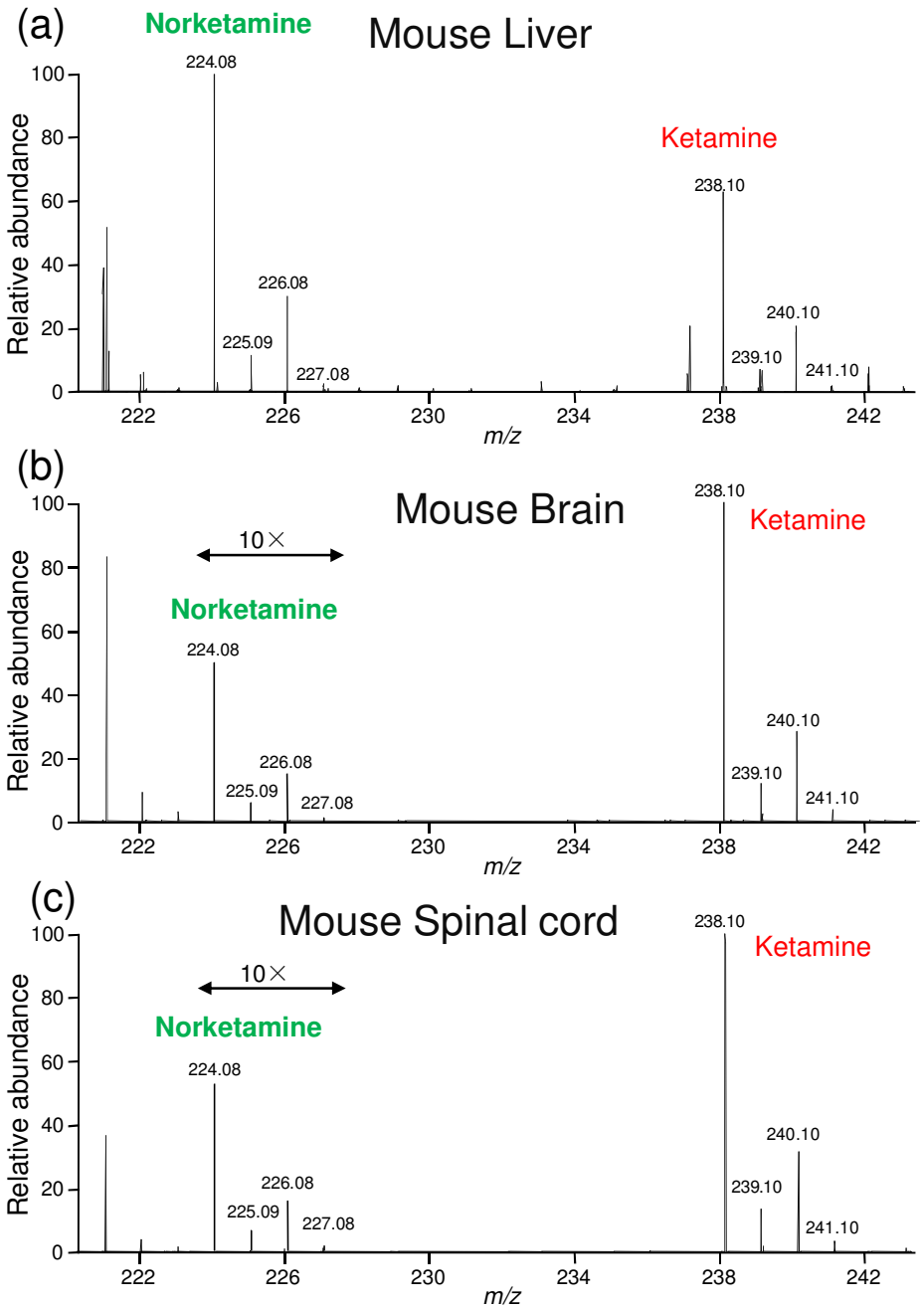

Figure S3. Spectra recorded in positive ion mode for biopsied tissues from mouse (a) liver, (b) brain and (c) spinal cord, showing ketamine used for anesthesia and its metabolite norketamine. Mouse anesthetized with 90 mg/kg ketamine and 9 mg/kg xylazine. Data acquired using Exactive Orbitrap.

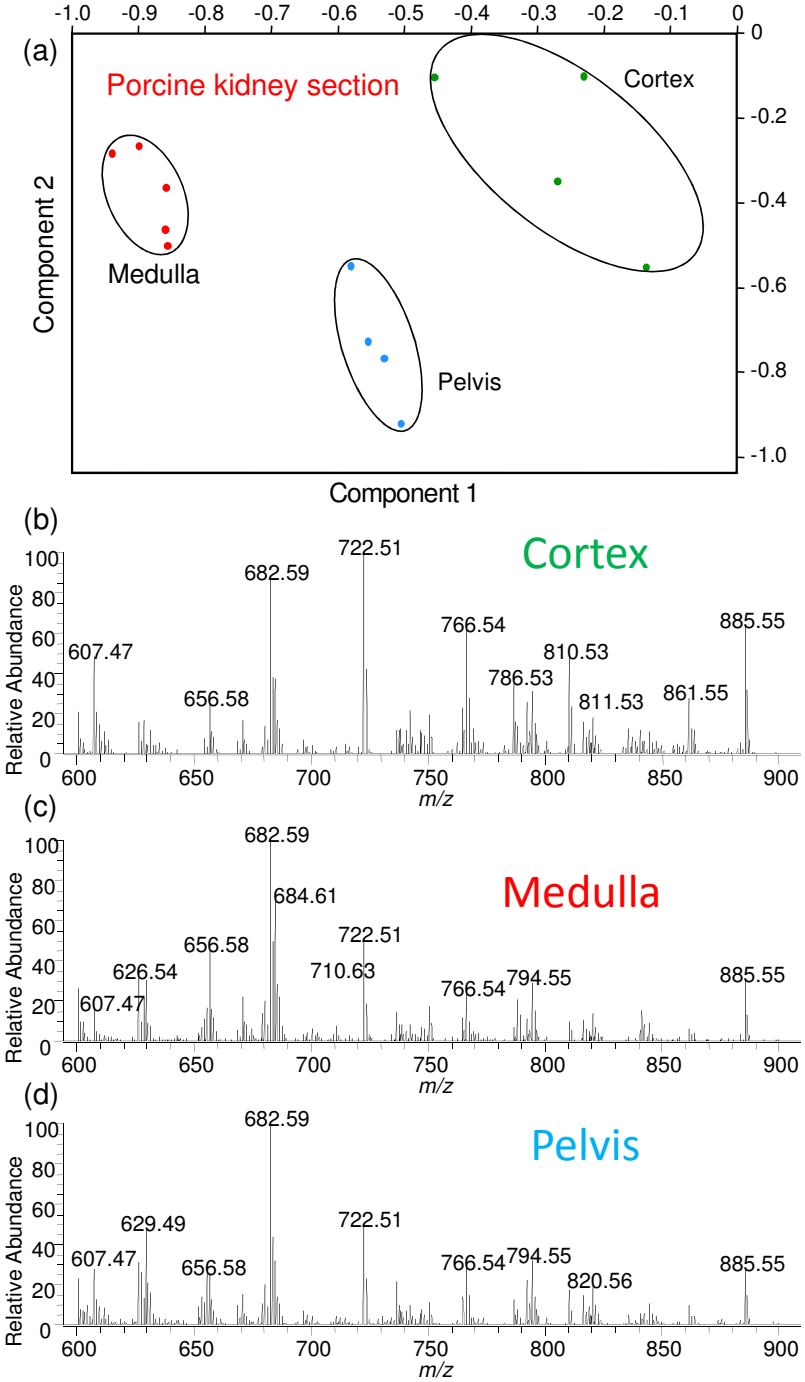

Figure S4. Analysis of lipids on the surface of a kidney section. Two-dimensional principal-component analysis was applied on spectral data acquired by direct spray from the samples biopsied from cortex, medulla and pelvis areas on a porcine kidney section.

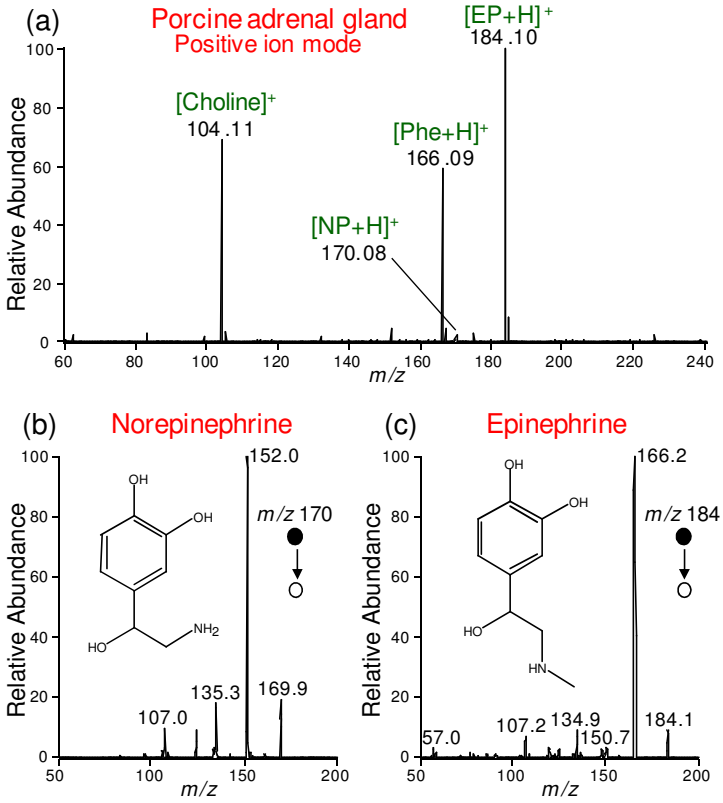

Figure. S5. Spectra were obtained for porcine adrenal gland samples and (a) a number of compounds were identified in the low mass range, including choline (*m/z* 104.11), phenylalanine (Phe, *m/z* 166.09), norepinephrine (NP, *m/z* 170.08) and epinephrine (EP, *m/z* 184.10). The identities of (b) norepinephrine and (c) epinephrine were confirmed with MS/MS using TSQ.