

## SUPPLEMENTARY INFORMATION

**Table S1.** Chromatographic and mass spectrometry conditions.

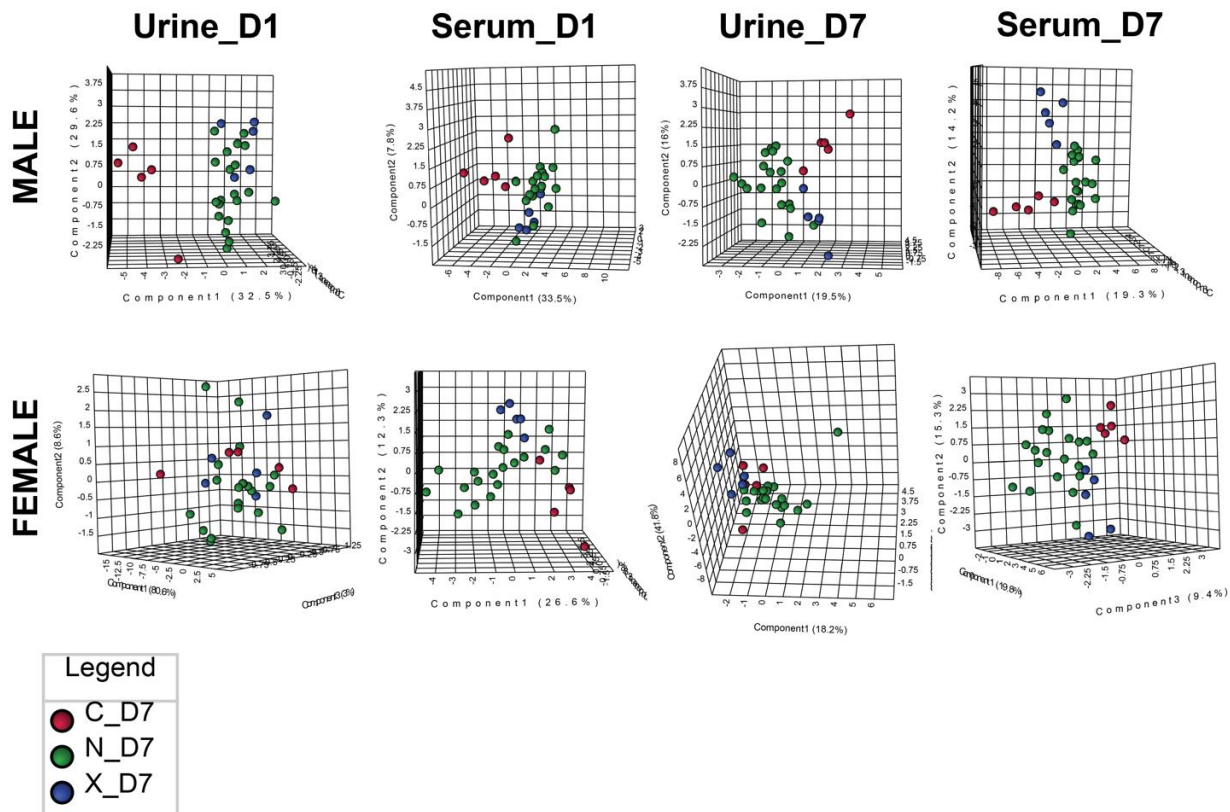
**Table S2.** Mean and SEM of biomarkers in urine. Statistically significant in relationship to sham.

**Table S3.** Mean and SEM of biomarkers in serum. Statistically significant in relationship to sham.

**Table S4.** Statistically significant differences of neutron compared to X-ray irradiated groups in urine.

**Table S5.** Statistically significant differences of neutron compared to X-ray irradiated groups in serum.

**Fig. S1.** sPLS-DA score plots based on the developed signatures. Analysis was conducted between controls (C), X-ray (X) and groups containing a neutron component (N) (pure neutrons, 5%, 15% and 25% grouped as one). Responses were more pronounced with increased time for both male and females.



Supplementary Figure 1