



**Supplemental Information F1:** An *in vitro*-modified peptide with a mass shift of -19 at lysine. Histone H4 (5  $\mu\text{g}$ ) was resolved by SDS-PAGE and stained with colloidal Coomassie blue staining solution composed of 9 volumes of G-250 stain solution (ProtoBlue, National Diagnostics, Atlanta, Georgia) and 1 volume of ethanol. The gel band was destained with buffer composed of ethanol/water (50:50, v/v) before in-gel digestion and HPLC/MS/MS analysis.