**Table S4. Characterization data for purified peptides used in this study.**

All peptides bear a free N- and C-terminus and were synthesized using standard Fmoc solid-phase protocols with pre-loaded Gln-Wang resin. Analysis of the peptides was performed with a Waters LC-MS system using an isocratic gradient of 5-98 % H2O/MeOH (0.1 % HCOOH) over 18 min. Where relevant, the position of the MTSL spin label attachment is indicated with an asterisk.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Peptide name** | **Peptide sequence** | **Calculated mass (Da)** | **Rt (min)** | **ES+ peaks found (m/z)** |
| TpsA479-95 | KVFLVNPNGVVFGKSAQ | 1804.1 | 9.97 | 902.7 (m/2+1),  1804.5 (m+1) |
| CupB580-96 | QVFLVNPNGVLFGRGAQ | 1816.1 | 11.28 | 908.9 (m/2+1),  606.3 (m/3+1),  1817.2 (m+1) |