

**Figure S2 – MS/MS spectrum used to identify ETV3 as a direct ERK2 target and the matching spectrum of a synthetic peptide**

MS/MS spectrum used to identify ETV3 as a direct ERK2 target and the matching spectrum of a synthetic peptide. **A)** MS/MS spectrum for a non-canonical ERK2 substrate site on ETV3 (peptide sequence SSGVVPQpSAPPVPTASSR[+10], +2 charge,  $m/z$  907.43). SILAC label increases the mass of arginine by 10 Dalton. Ion assignments indicating y/b, neutral loss and charge state are shown near most significant peaks. Two unassigned peaks are indicated by a red dot, neither occurs in the synthetic peptide spectrum in B.

