

**Supporting Information S2.** List of 386 phosphothreonine phosphorylation proteins, and none of proteins included has  $\geq 50\%$  pairwise sequence identity with any other. See the main text for further explanation.

>P11171

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>Q13542

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>P05067

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>P54646

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>Q9HC16

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>O14672

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>P78536

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>O75689

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>P35611

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>P35612

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>Q9GZX7

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>P31751

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>Q96B36

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>P02768

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>P19021

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>P16066

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>P01008

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>Q9H1A4

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>Q6Q788

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>Q92974

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>P05814

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>P68104

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>P13639

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>O75821

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>O75822

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>P19419

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>Q9UQ84

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>Q15910

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>P00740

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>Q9NV11

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>P43405

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>Q9HBH9

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>O14950

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>P45985

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>P46734

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>P30307

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>Q5VT25

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>P42345

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>P15941

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>P10244

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>P01106

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>O14974

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