

Supporting Information S4. List of 375 non-phosphorylation proteins, and none of proteins included has $\geq 50\%$ pairwise sequence identity with any other. See the main text for further explanation.

>P62258

MDDREDLVYQAKLAEQAERYDEMVESMKKVAGMDVELTVEERNLLSVAYKNVIGARRASWRIISSIEQK
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>P08195

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>P02763

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>P08697

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>P07108

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>P53396

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>P68032

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>P07311

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>Q15848

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>P35318

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>P47895

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>P49189

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>P04075

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VEPEILPDGDHDLKRCQYVTEKVLAAVYKALSDHHIYLEGTLKPNMVTTPGHACTQKFS
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>P15121

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>Q96Q83

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>P04745

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>P03950

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>Q9NR22

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>P12429

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>P19801

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>Q16853

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>Q9BXS5

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>P50583

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>P27695

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>Q9BZZ5

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>P05090

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>P07741

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>Q9NVJ2

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>P04424

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>P59998

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>P20933

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>P48047

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>P17735

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>P61769

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>O15382

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>P02745

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>P02746

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>Q12962

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>P37802

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>P17987

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>P78371

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>P48643

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>P49368

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>Q99832

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>P50990

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>Q92734

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>P21980

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>O43548

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>P20366

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>Q01081

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>O75348

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>O43264

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