

Supplementary materials.



NetPhos 3.1 Server - prediction results

Technical University of Denmark

```
>Sequence      18 amino acids
#
# netphos-3.1b prediction results
#
# Sequence      # x   Context   Score   Kinase   Answer
# -----
# Sequence      12 S   HRGLSPEVP 0.988   unsp     YES
# Sequence      12 S   HRGLSPEVP 0.515   RSK      YES
# Sequence      12 S   HRGLSPEVP 0.508   GSK3     YES
# Sequence      12 S   HRGLSPEVP 0.466   p38MAPK  .
# Sequence      12 S   HRGLSPEVP 0.461   CaM-II   .
# Sequence      12 S   HRGLSPEVP 0.453   cdk5     .
# Sequence      12 S   HRGLSPEVP 0.441   PKA      .
# Sequence      12 S   HRGLSPEVP 0.416   ATM      .
# Sequence      12 S   HRGLSPEVP 0.408   cdc2     .
# Sequence      12 S   HRGLSPEVP 0.370   CKI      .
# Sequence      12 S   HRGLSPEVP 0.350   DNAPK    .
# Sequence      12 S   HRGLSPEVP 0.300   PKG      .
# Sequence      12 S   HRGLSPEVP 0.284   CKII     .
# Sequence      12 S   HRGLSPEVP 0.257   PKB      .
# Sequence      12 S   HRGLSPEVP 0.091   PKC      .
#
# RPKHPINHRGLSPEVPNE      #      50
%1 .....S.....
```

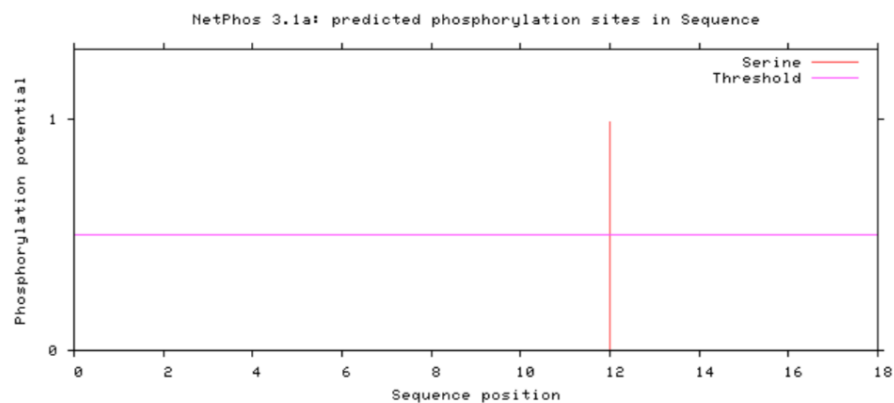


Figure S1: The prediction results for phosphorylation sites on Nter peptide.

```
>Sequence      15 amino acids
#
# netphos-3.1b prediction results
#
# Sequence      # x   Context   Score   Kinase   Answer
# -----
# Sequence      4 S   -PIGSENSG 0.517   CKI      YES
# Sequence      4 S   -PIGSENSG 0.474   cdc2     .
# Sequence      4 S   -PIGSENSG 0.445   GSK3     .
# Sequence      4 S   -PIGSENSG 0.441   DNAPK    .
# Sequence      4 S   -PIGSENSG 0.439   CaM-II   .
# Sequence      4 S   -PIGSENSG 0.370   CKII     .
# Sequence      4 S   -PIGSENSG 0.316   p38MAPK  .
# Sequence      4 S   -PIGSENSG 0.302   PKG      .
# Sequence      4 S   -PIGSENSG 0.278   RSK      .
# Sequence      4 S   -PIGSENSG 0.268   ATM      .
# Sequence      4 S   -PIGSENSG 0.221   PKC      .
# Sequence      4 S   -PIGSENSG 0.215   cdk5     .
# Sequence      4 S   -PIGSENSG 0.192   PKA      .
# Sequence      4 S   -PIGSENSG 0.092   PKB      .
# Sequence      4 S   -PIGSENSG 0.005   unsp     .
#
# Sequence      7 S   GSENSGKTT 0.970   unsp     YES
# Sequence      7 S   GSENSGKTT 0.526   CKI      YES
# Sequence      7 S   GSENSGKTT 0.461   CaM-II   .
# Sequence      7 S   GSENSGKTT 0.447   cdc2     .
# Sequence      7 S   GSENSGKTT 0.427   GSK3     .
# Sequence      7 S   GSENSGKTT 0.354   DNAPK    .
# Sequence      7 S   GSENSGKTT 0.333   CKII     .
# Sequence      7 S   GSENSGKTT 0.275   ATM      .
# Sequence      7 S   GSENSGKTT 0.273   p38MAPK  .
# Sequence      7 S   GSENSGKTT 0.250   RSK      .
# Sequence      7 S   GSENSGKTT 0.235   PKC      .
# Sequence      7 S   GSENSGKTT 0.227   PKG      .
# Sequence      7 S   GSENSGKTT 0.153   PKA      .
# Sequence      7 S   GSENSGKTT 0.150   cdk5     .
# Sequence      7 S   GSENSGKTT 0.082   PKB      .
#
# Sequence      10 T  NSGKTTMPL 0.451   GSK3     .
# Sequence      10 T  NSGKTTMPL 0.431   CaM-II   .
# Sequence      10 T  NSGKTTMPL 0.400   unsp     .
# Sequence      10 T  NSGKTTMPL 0.368   cdc2     .
# Sequence      10 T  NSGKTTMPL 0.368   CKI      .
# Sequence      10 T  NSGKTTMPL 0.338   DNAPK    .
# Sequence      10 T  NSGKTTMPL 0.335   CKII     .
# Sequence      10 T  NSGKTTMPL 0.333   p38MAPK  .
# Sequence      10 T  NSGKTTMPL 0.294   RSK      .
# Sequence      10 T  NSGKTTMPL 0.262   PKG      .
# Sequence      10 T  NSGKTTMPL 0.255   ATM      .
# Sequence      10 T  NSGKTTMPL 0.190   cdk5     .
# Sequence      10 T  NSGKTTMPL 0.189   PKA      .
# Sequence      10 T  NSGKTTMPL 0.185   PKC      .
# Sequence      10 T  NSGKTTMPL 0.098   PKB      .
#
# Sequence      11 T  SGKTTMPLW 0.456   GSK3     .
# Sequence      11 T  SGKTTMPLW 0.452   CKII     .
# Sequence      11 T  SGKTTMPLW 0.426   CaM-II   .
# Sequence      11 T  SGKTTMPLW 0.381   PKG      .
#
# Sequence      11 T  SGKTTMPLW 0.379   cdc2     .
# Sequence      11 T  SGKTTMPLW 0.357   CKI      .
# Sequence      11 T  SGKTTMPLW 0.349   DNAPK    .
# Sequence      11 T  SGKTTMPLW 0.345   PKA      .
# Sequence      11 T  SGKTTMPLW 0.323   p38MAPK  .
# Sequence      11 T  SGKTTMPLW 0.305   PKC      .
# Sequence      11 T  SGKTTMPLW 0.279   ATM      .
# Sequence      11 T  SGKTTMPLW 0.278   RSK      .
# Sequence      11 T  SGKTTMPLW 0.265   cdk5     .
# Sequence      11 T  SGKTTMPLW 0.096   PKB      .
# Sequence      11 T  SGKTTMPLW 0.040   unsp     .
#
# PIGSENSGKTTMPLW      #      50
%1 ...S..S.....
```

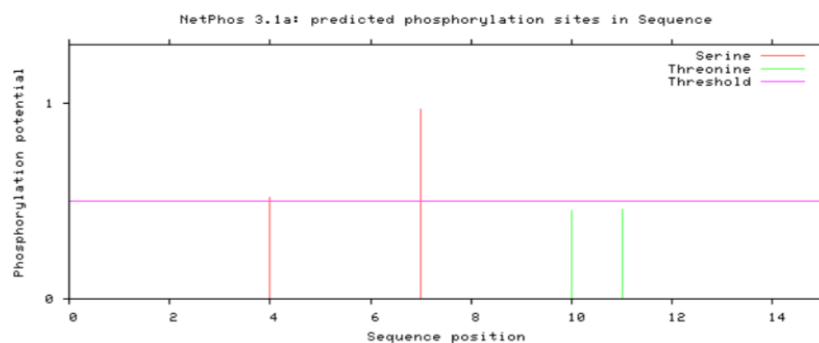


Figure S2: The prediction results for phosphorylation sites on Cter peptide.

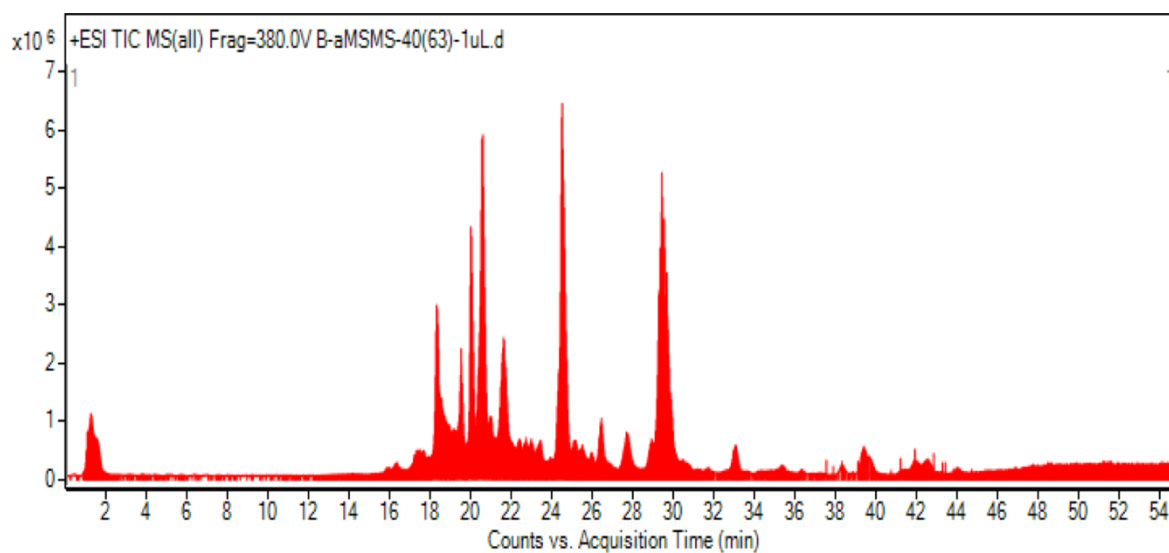


Figure S3. The MS/MS chromatogram for goat α s1-casein.

Table S1. The coverage (%), number of peptides, number of unique peptides, average molecular mass and description of protein identified by PEAKS software.

Accession	Coverage (%)	#Peptides	#Unique	Avg. Mass	Description
P18626 CASA1_CAPHI	79	62	62	24290	Alpha-S1-casein OS=Capra hircus
P33049 CASA2_CAPHI	51	15	15	26389	Alpha-S2-casein OS=Capra hircus
P33048 CASB_CAPHI	39	7	7	24865	Beta-casein OS=Capra hircus
P02670 CASK_CAPHI	21	4	4	21441	Kappa-casein OS=Capra hircus

OS: Organism species