

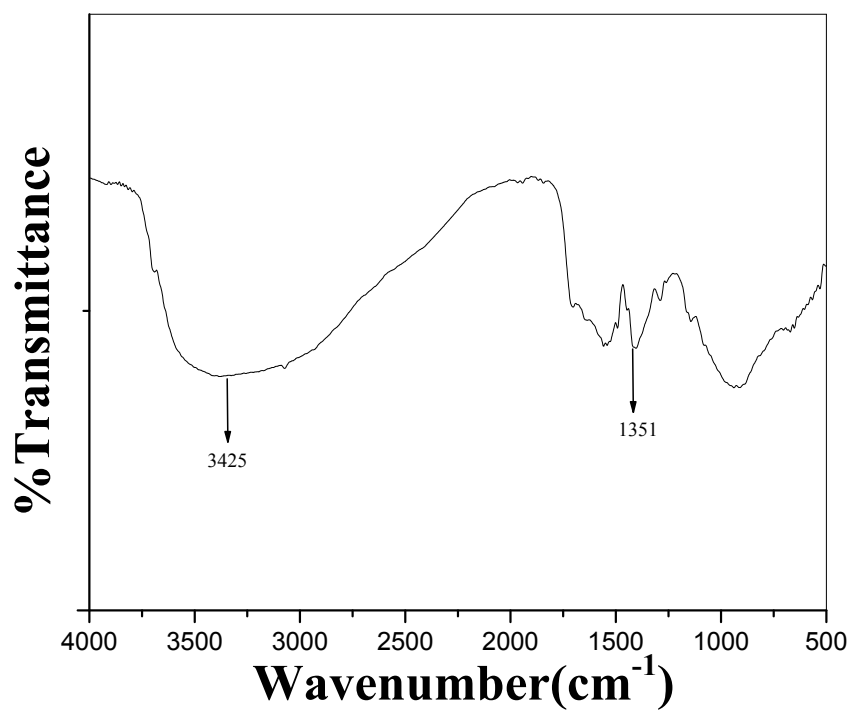


Fig. S1. FTIR spectra of TiO₂.

NO.	Peptide sequence	Number of phosphoryl groups	Observed m/z
β1	FQ[pS]EEQQQTEDELQDK	1	2061.72
β2	FQ[pS]EEQQQTEDELQDKIHPF	1	2556.09
β3	RELEELNVPGEIVE[pS]L[pS][pS][pS]EESITR	4	3122.27

[pS]: phosphorylated site.

Table S1 The detailed information for the detected phosphopeptides from tryptic digests of β -casein after enriched NH₂@TiO₂ in MALDI-TOF MS analysis

NO.	Peptide sequence	Number of phosphoryl groups	Observed m/z
HS1	D[pS]GEGDFLAEGGGV	1	1389.46
HS2	AD[pS]GEGDFLAEGGGV	1	1460.61
HS3	D[pS]GEGDFLAEGGGVR	1	1545.58
HS4	AD[pS]GEGDFLAEGGGVR	1	1616.71

[pS]: phosphorylated site.

Table S2 The detailed information for the detected phosphopeptides from human serum sample after enriched NH₂@TiO₂ in MALDI-TOF MS analysis

NO.	Peptide sequence	Number of phosphoryl groups	Observed m/z
1s	TVDMEST <u>E</u> TVF	1	1237.9
2m	EQLST <u>S</u> E <u>E</u> NSKK 1	2	1539.7
3 s	DIGSE <u>S</u> TE <u>D</u> QAMEDIK	1	1847.7
4 m	DIG <u>S</u> E <u>S</u> TE <u>D</u> QAMEDIK	2	1927.7
5 m	DIGSE <u>S</u> TE <u>D</u> QA <u>o</u> MEDIK	2	1943.1
6 s	FQ <u>S</u> EEQQQTEDELQDK	1	2061.7
7 m	NTMEHV <u>S</u> <u>S</u> SE <u>S</u> IISQETYK	4	2618.1
8 m	NT <u>o</u> MEHV <u>S</u> <u>S</u> SE <u>S</u> IISQETYK	4	2635.1
9 m	QMEAE <u>S</u> IS <u>S</u> SEEIVP <u>N</u> <u>S</u> VEAQK	5	2704.2
10 m	QMEAE <u>S</u> IS <u>S</u> SEEIVP <u>N</u> <u>S</u> VEQK	5	2721.5
11 m	NTMEHV <u>S</u> <u>S</u> SE <u>S</u> IISQETYKQ	4	2747.1
12 m	EKVNEL <u>S</u> KDIGSE <u>S</u> TE <u>D</u> QAMEDIK	3	2935.4
13 m	ELEELNVPGEIV <u>E</u> <u>S</u> <u>L</u> <u>S</u> <u>S</u> SEESITR	4	2966.2
14 m	NANEE <u>E</u> <u>S</u> Y <u>S</u> IG <u>S</u> <u>S</u> SEESA EVATEEVK	4	3007.8
15 m	RELEELNVPGEIV <u>E</u> <u>S</u> <u>L</u> <u>S</u> <u>S</u> SEESITR	4	3122.3

s: single phosphopeptide; m: multiple phosphopeptide; o: oxidation on methionine

Table S3 The detailed information of the observed phosphopeptides obtained from tryptic digests of non-fat milk.