

1 **Supplementary information**

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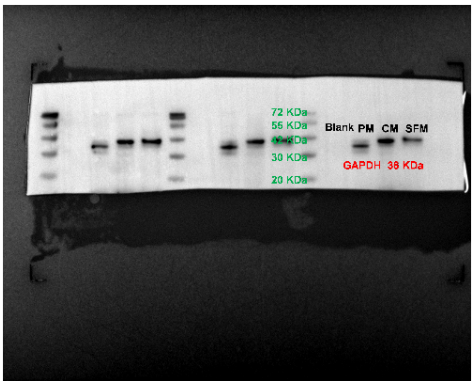
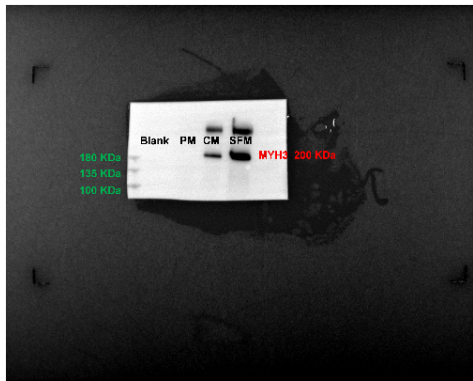
17 *E-mail addresses:* zhoujw1982@jiangnan.edu.cn (J. Zhou), mazw@usts.edu.cn (Z.
18 Ma).

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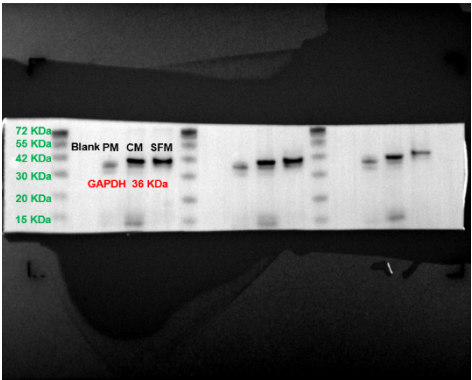
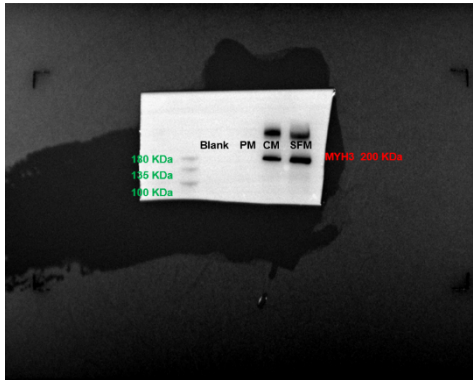
20 Three repeat data of Western Blot-Related to Fig. 4

21 1. MYH3

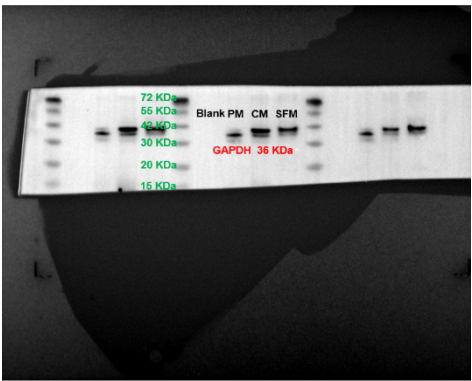
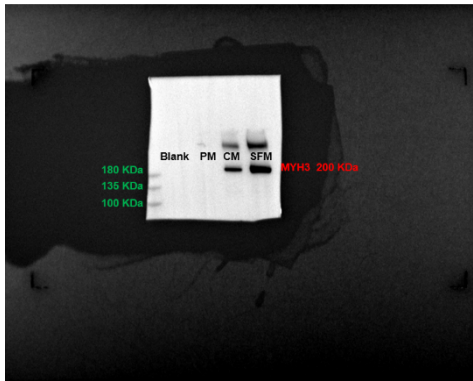
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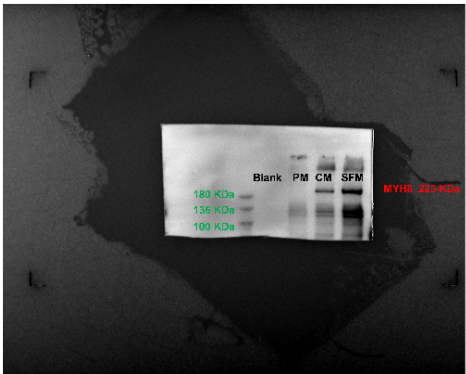
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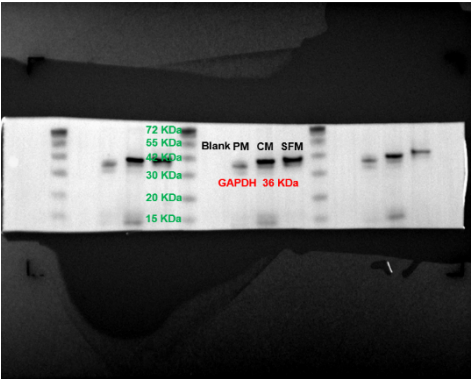
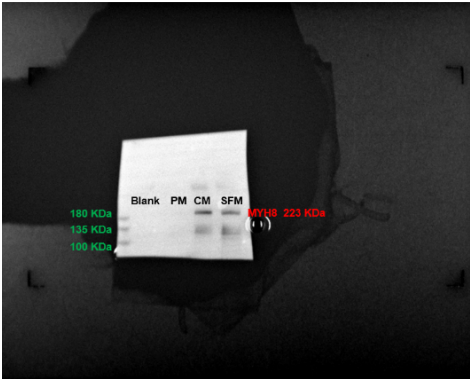
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26 2. MYH8

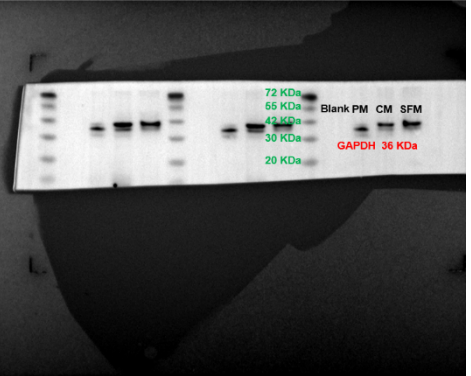
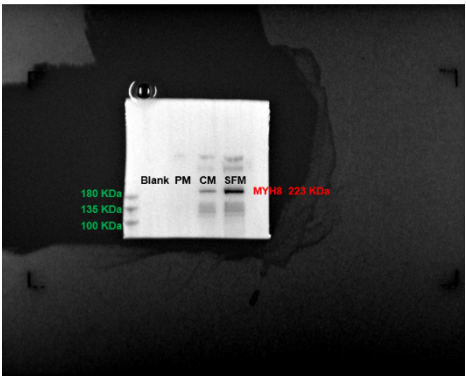
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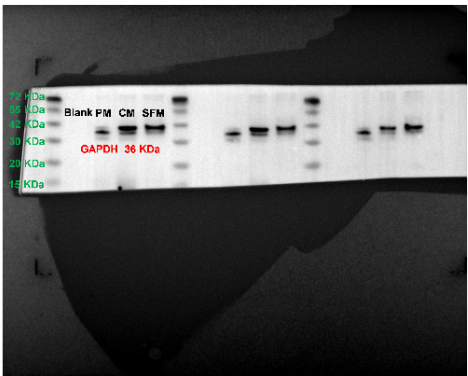
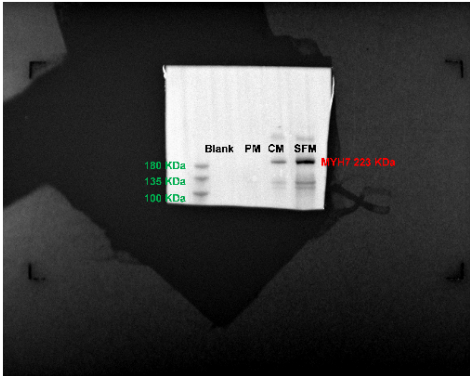
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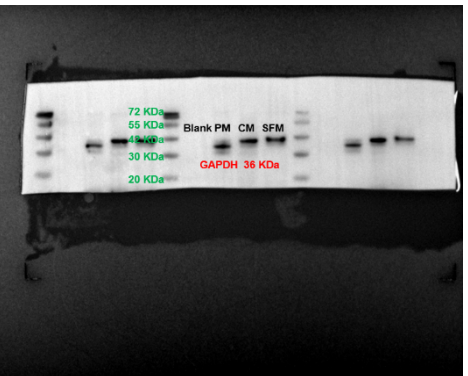
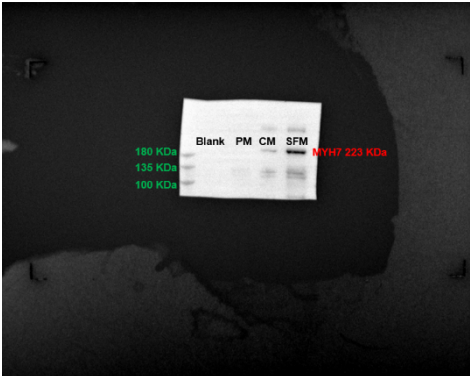
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31 3. MYH7

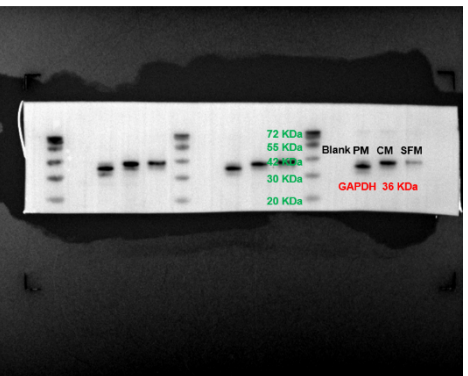
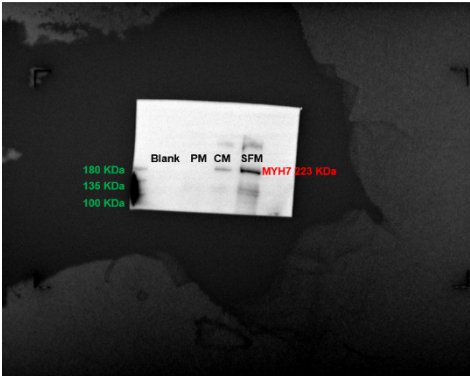
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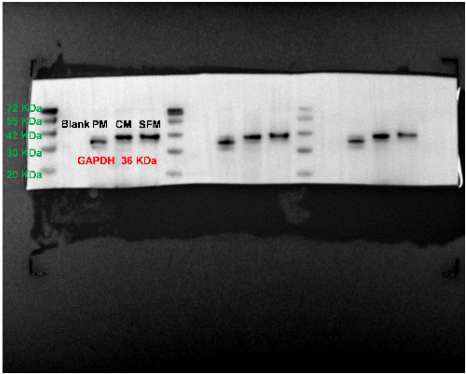
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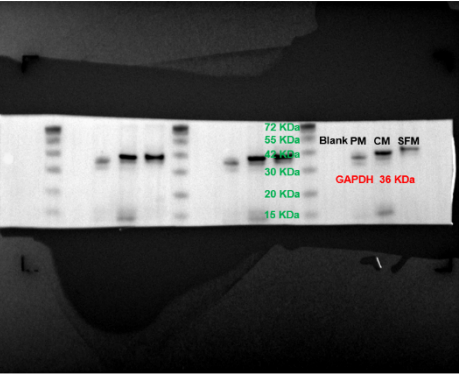
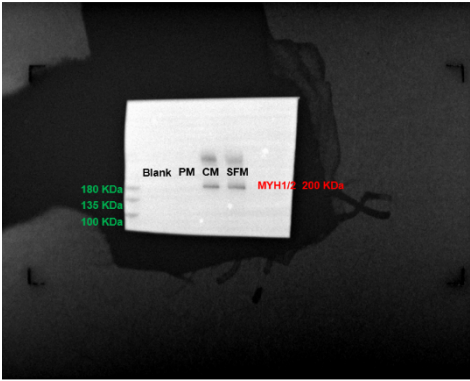
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36 4. MYH1/2

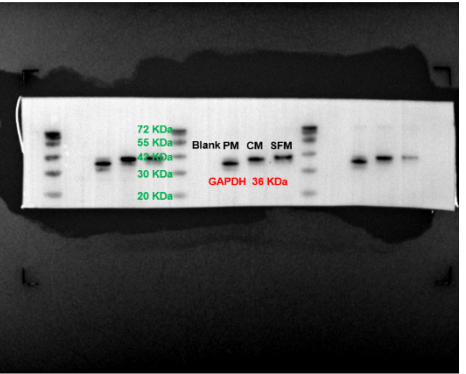
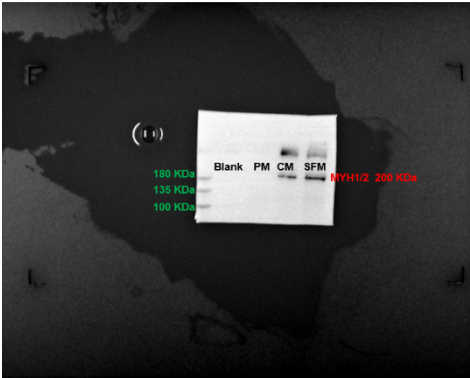
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41 Raw data of Amino acid contents related to Fig. 6d-f

42 **Supplementary Table 1 Amino acid contents in cultured meat or Tenderloin, g/100**

43 **g (Wet wight)**

Amino acid species	Amino acid	Blank	PM	CM	SFM	Tenderloin
NEAA	Asp	1.22±0.06 ^b	1.27±0.03 ^b	1.36±0.12 ^b	1.39±0.17 ^{ab}	1.64±0.06 ^a
	Glu	2.30±0.28 ^b	2.45±0.05 ^b	2.63±0.34 ^{ab}	2.69±0.41 ^{ab}	2.93±0.14 ^a
	Ser	0.61±0.15 ^a	0.56±0.09 ^a	0.60±0.07 ^a	0.57±0.08 ^a	0.61±0.03 ^a
	Gly	0.49±0.02 ^c	0.53±0.06 ^{bc}	0.59±0.05 ^b	0.61±0.07 ^b	0.78±0.02 ^a
	Arg	0.77±0.07 ^b	0.82±0.13 ^b	0.85±0.10 ^b	0.91±0.12 ^{ab}	1.12±0.06 ^a
	Ala	0.54±0.01 ^c	0.58±0.05 ^c	0.66±0.05 ^b	0.70±0.07 ^b	0.94±0.05 ^a
	Pro	0.72±0.15 ^{ab}	0.64±0.03 ^b	0.84±0.14 ^{ab}	0.85±0.05 ^a	0.63±0.05 ^b
	TNEAA	6.65±0.54 ^b	6.85±0.38 ^b	7.52±0.56 ^b	7.72±0.91 ^{ab}	8.65±0.37 ^a
EAA	Tyr**	0.44±0.03 ^b	0.42±0.04 ^b	0.46±0.03 ^{ab}	0.46±0.09 ^{ab}	0.55±0.05 ^a
	Cys**	0.10±0.01 ^a	0.09±0.01 ^a	0.09±0.01 ^a	0.11±0.03 ^a	0.09±0.01 ^a
	Val	0.71±0.04 ^b	0.72±0.06 ^b	0.78±0.05 ^b	0.84±0.12 ^{ab}	0.95±0.05 ^a
	Met	0.19±0.02 ^b	0.15±0.03 ^b	0.18±0.01 ^b	0.23±0.09 ^{ab}	0.33±0.08 ^a
	Phe	0.64±0.03 ^a	0.67±0.06 ^a	0.72±0.07 ^a	0.72±0.13 ^a	0.69±0.03 ^a
	Ile	0.65±0.02 ^b	0.66±0.06 ^b	0.72±0.05 ^b	0.79±0.14 ^{ab}	0.90±0.04 ^a
	Leu	1.02±0.04 ^c	1.06±0.09 ^c	1.23±0.10 ^b	1.26±0.15 ^{ab}	1.40±0.08 ^a
	Lys	0.59±0.06 ^c	0.64±0.05 ^c	0.82±0.10 ^b	0.95±0.11 ^b	1.53±0.09 ^a
	His*	0.45±0.21 ^{ab}	0.37±0.06 ^b	0.42±0.07 ^b	0.41±0.06 ^b	0.65±0.01 ^a
	Thr	0.46±0.04 ^b	0.50±0.06 ^b	0.55±0.05 ^b	0.57±0.08 ^b	0.77±0.03 ^a
	Met+Cys	0.29±0.03 ^{ab}	0.23±0.03 ^b	0.27±0.02 ^b	0.34±0.13 ^{ab}	0.42±0.08 ^a
	Tyr+Phe	1.08±0.04 ^b	1.08±0.10 ^{ab}	1.18±0.10 ^{ab}	1.18±0.21 ^{ab}	1.24±0.07 ^a
	TEAA	5.24±0.18 ^b	5.26±0.47 ^b	5.97±0.50 ^b	6.21±0.75 ^b	7.86±0.43 ^a
	TAA	11.89±0.64 ^b	12.11±0.85 ^b	13.49±1.02 ^b	13.93±1.65 ^{ab}	16.51±0.79 ^a

44 Abbreviations: NEAA, Non-essential amino acids; EAA, Essential amino acids;

45 TNEAA, Total non-essential amino acids; TEAA, Total essential amino acids; TAA,
46 Total amino acids; *, Conditional essential amino acids; **, Semi-essential amino
47 acids.

48 **Supplementary Table 2 Essential amino acid composition of proteins in cultured**

49 **meat or tenderloin, mg/ g (Protein)**

Amino acid	Standard content	Blank	PM	CM	SFM	Tenderloin
Val	50	57.91±4.11 ^a	57.67±1.24 ^a	56.29±0.92 ^a	59.22±2.19 ^a	56.08±0.77 ^a
Thr	40	37.47±1.99 ^b	39.60±1.94 ^b	39.59±2.36 ^b	39.85±0.52 ^b	45.51±0.62 ^a
Ile	40	53.02±1.35 ^a	53.19±1.04 ^a	52.46±0.76 ^a	55.37±3.21 ^a	52.92±0.71 ^a
Leu	70	83.63±2.33 ^a	84.73±1.18 ^a	85.67±2.35 ^a	83.40±1.17 ^a	82.99±1.21 ^a
Lys	55	47.95±2.47 ^d	51.09±0.36 ^d	59.58±2.52 ^c	66.84±1.31 ^b	90.17±1.41 ^a
Met+Cys	35	24.25±3.19 ^a	18.72±1.82 ^a	19.56±1.39 ^a	23.70±5.14 ^a	24.86±3.34 ^a
Tyr+Phe	60	88.35±1.55 ^a	86.85±1.61 ^a	85.79±1.37 ^a	82.50±4.81 ^{ab}	73.50±0.78 ^b
Total	350	392.58±11.71 ^b	391.85±8.34 ^b	398.94±8.96 ^b	410.89±20.81 ^{ab}	426.04±5.05 ^a

51 **Supplementary Table 3 AAS and EAAI values of cultured meat or Tenderloin**

Amino acid	Blank	PM	CM	SFM	Tenderloin
Val	115.82±10.07 ^a	115.33±3.03 ^a	112.58±2.26 ^a	118.43±5.37 ^a	112.17±1.88 ^a
Thr	93.67±6.09 ^b	98.99±5.95 ^b	98.96±7.24 ^b	99.63±1.60 ^b	113.77±1.90 ^a
Ile	132.56±4.12 ^a	132.98±3.17 ^a	131.16±2.32 ^a	138.42±9.84 ^a	132.31±2.17 ^a
Leu	119.48±4.07 ^a	121.05±2.06 ^a	122.38±4.11 ^a	119.15±2.05 ^a	118.55±2.11 ^a
Lys	87.17±5.51 ^d	92.89±0.81 ^d	108.32±5.62 ^c	121.53±2.91 ^b	163.95±3.15 ^a
Met+Cys	69.29±11.18 ^a	53.50±6.36 ^a	55.90±4.85 ^a	67.73±17.99 ^a	71.04±11.72 ^a
Tyr+Phe	147.25±3.15 ^a	144.75±3.29 ^a	142.99±2.80 ^a	137.50±9.81 ^{ab}	122.51±1.60 ^b
EAAI	106.25±4.03 ^b	104.07±2.60 ^b	106.44±1.78 ^b	111.94±7.52 ^{ab}	116.17±2.48 ^a

52 Abbreviations: AAS, Amino acid scores

