Table S1 Concentration of glucose in various medium

Medium	Type	Glucose (mM)	Fructose (mM)	Total amino acids (mM)
Soy sauce cake	Food by-product	88.6	3.1	39.4
Mirin cake	Food by-product	123.3	2.3	58.3
Tomato peel	Food by-product	95.7	4.0	26.8
Okara	Food by-product	74.4	12.9	58.5
M9-yeast extract	Semisynthesized medium	n.d.	n.d.	20.5
M9-tryptone	Semisynthesized medium	n.d.	n.d.	17.4
M9-peptone	Semisynthesized medium	n.d.	n.d.	11.6
M9-casamino acids	Semisynthesized medium	n.d.	n.d.	41.7
LB	Semisynthesized medium	n.d.	n.d.	32.6
YPD	Semisynthesized medium	108.6	n.d.	59.2

n.d.: not detected

Table S2 Primers used in this study

Primer	Sequence (5′-3′)	Note
glnAF	GCCAGAGACAGGCGAAAAGTTTCCACGGCA-ACTAAAACACGTGTAGGCTGGAGCTGCTTC	Construction for *glnA*-Km cassette
glnAR	GTTACCACGACGACCATGACCAATCCAGGAG-AGTTAAAGTCTGTCAAACATGAGAATTAA	Construction for *glnA*-Km cassette
ptsGF	AACGTAAAAAAAGCACCCATACTCAGGAGC-ACTCTCAATTCTGTCAAACATGAGAATTAA	Construction for *ptsG*-Km cassette
ptsGR	CAGCCATCTGGCTGCCTTAGTCTCCCCAACG-TCTTACGGAGTGTAGGCTGGAGCTGCTTC	Construction for *ptsG*-Km cassette
glnAseqF	AGCTGACAAACTTCACGTTG	Check the genome insertion of *glnA*-Km cassette
glnAseqR	GCAACATTCACATCGTGGTG	Check the genome insertion of *glnA*-Km cassette
ptsGseqF	GTCAAACAAATTGGCACTG	Check the genome insertion of *ptsG*-Km cassette
ptsGseqR	CAATAGCAGCCAGTCCCTTC	Check the genome insertion of *ptsG*-Km cassette

Table S3 Concentration of amino acids in various medium (expressed as mM)

	Soy sauce cake	*Mirin* cake	Tomato peel	Okara	M9-yeast extract	M9-tryptone	M9-peptone	M9-casamino acids	LB	YPD
Aspartic acid	1.91	2.71	1.85	2.85	1.17	0.42	0.29	3.74	1.19	2.56
Threonine	2.50	3.46	1.80	3.61	1.05	1.02	0.39	2.45	1.62	2.86
Serine	2.86	4.40	1.98	4.62	1.40	0.87	0.46	3.37	1.80	3.16
Glutamic acid	2.94	4.40	2.70	6.08	3.64	0.95	0.75	10.38	3.46	7.31
Glycine	2.10	3.54	1.40	3.34	1.23	0.36	1.28	1.76	1.18	5.09
Alanine	3.73	5.55	2.43	4.95	3.43	1.01	1.30	2.67	3.36	8.84
Cysteine	0.41	0.98	0.39	0.80	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Valine	3.11	5.18	2.08	4.64	1.69	1.59	0.83	3.65	2.85	4.73
Methionine	0.40	1.20	0.35	0.71	0.40	0.33	0.13	0.76	0.89	0.17
Isoleucine	2.18	3.26	1.34	3.21	1.20	0.87	0.43	1.88	1.73	2.89
Leucine	3.16	5.31	2.17	4.97	2.01	3.29	1.11	3.15	4.96	5.97
Tyrosine	5.48	2.92	1.33	2.30	0.39	0.25	0.26	0.22	0.51	1.17
Phenylalanine	2.04	2.80	1.11	2.59	0.96	1.49	0.54	1.34	2.24	2.86
Lysine	1.68	1.84	1.61	3.14	0.06	0.03	n.d.	0.02	0.06	0.22
Histidine	0.48	0.72	0.39	0.96	0.09	n.d.	0.03	n.d.	0.13	0.16
Arginine	1.15	2.44	1.08	2.69	0.67	2.54	0.95	3.21	3.34	3.32
Proline	1.46	2.67	0.93	2.85	0.19	0.31	0.11	0.47	0.39	0.56
Asparagine	1.30	2.52	1.21	2.83	0.20	0.24	0.13	0.97	0.49	0.34
Glutamine	0.48	2.42	0.61	1.41	0.70	1.78	2.64	1.68	2.45	7.01
Total	39.4	58.3	26.8	58.5	20.5	17.4	11.6	41.7	32.6	59.2

n.d.: not detected

Fig.S1A

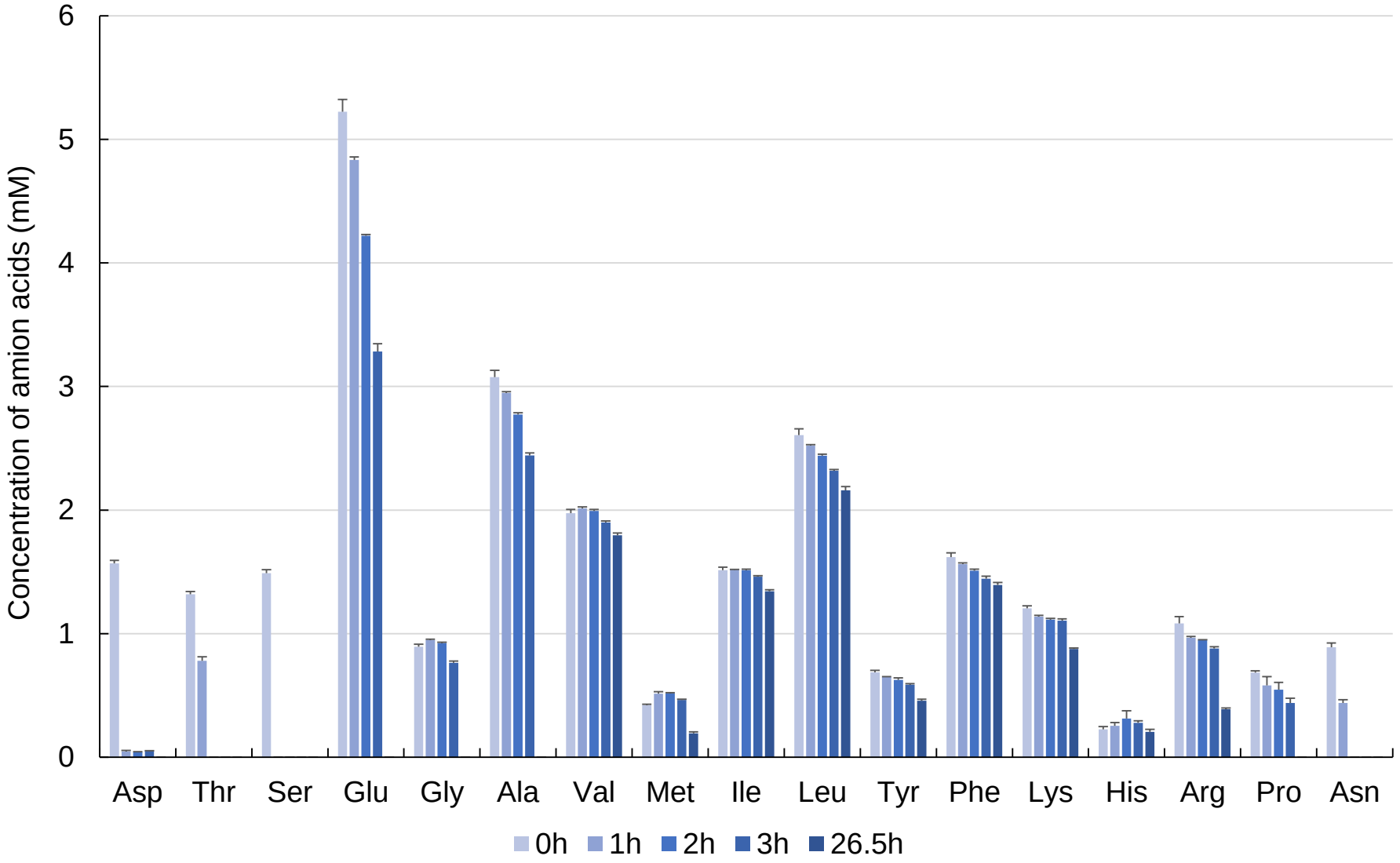


Figure S1. M9-yeast extract medium supplemented with (A) blank, (B) 10 mM glucose, or (C) 50 mM glucose was incubated by *E. coli* DH10B for 1–26.5 hours, and the amino acid concentrations were compared. Values are given as mean ± SD (n=3).

Fig.S1B

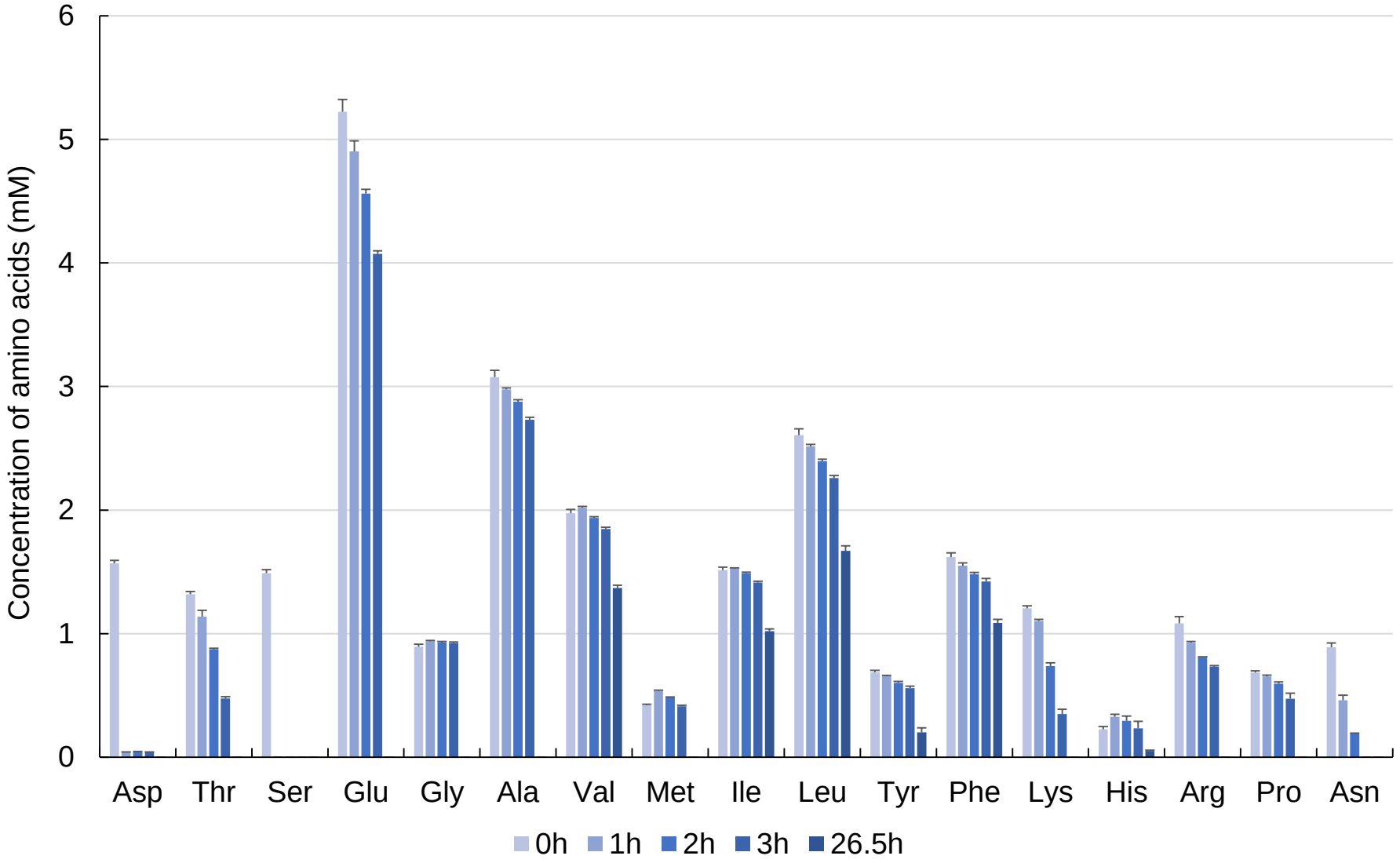
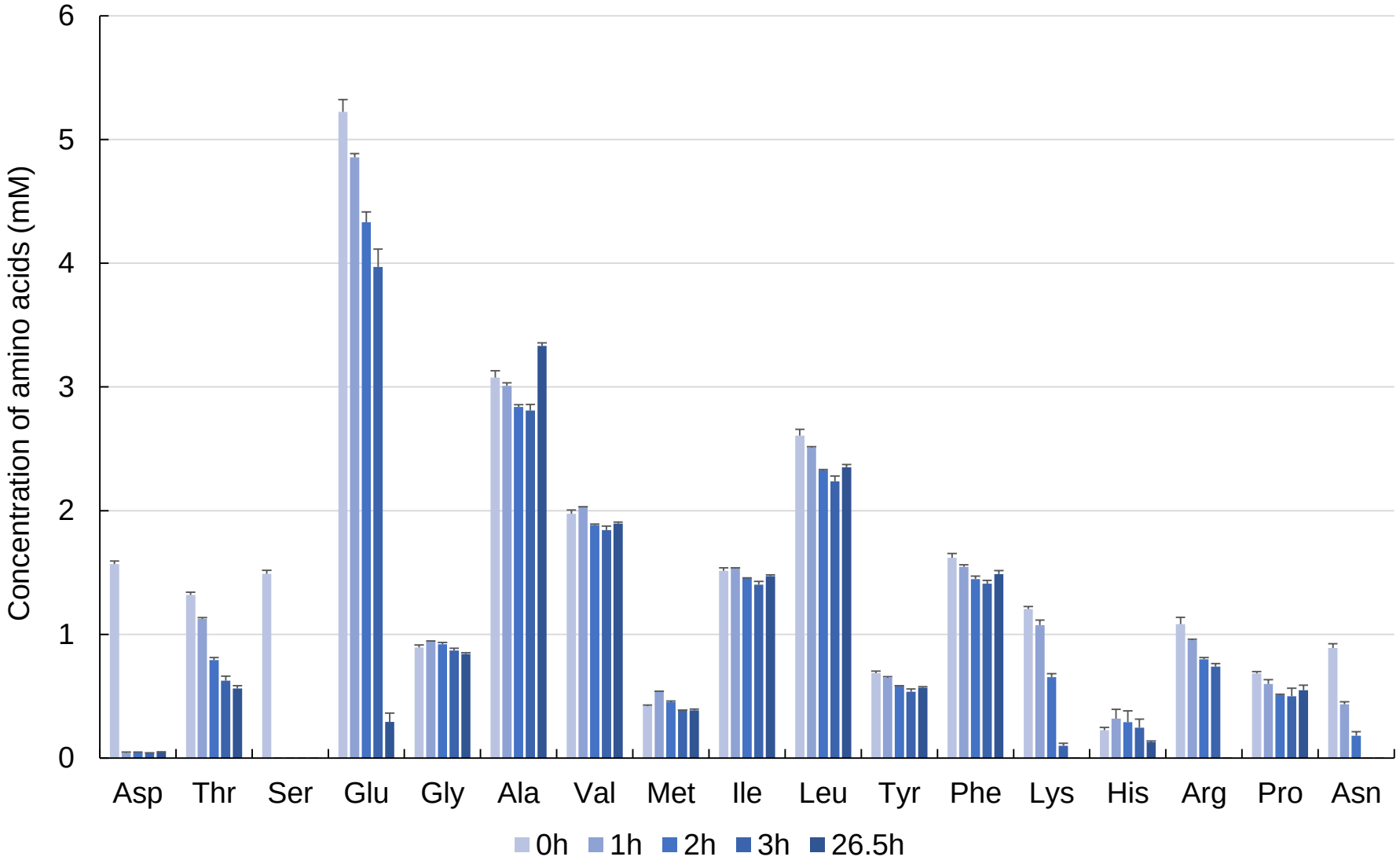

Concentration of amino acids (mM)
6
5
4
3
2
1
0
Asp
Thr
Ser
Glu
Gly
Ala
Val
Met
Ile
Leu
Tyr
Phe
Lys
His
Arg
Pro
Asn
0h
1h
2h
3h
26.5h

Fig.S1C


Concentration of amino acids (mM)
6
5
4
3
2
1
0
Asp
Thr
Ser
Glu
Gly
Ala
Val
Met
Ile
Leu
Tyr
Phe
Lys
His
Arg
Pro
Asn
0h
1h
2h
3h
26.5h