

## Supplementary materials

### Figure legends

#### Figure S1

Western blotting of p-AMPK, AMPK, and cyclin D1 expressed in QGP-1 cells at 24 h after metformin treatment. The areas enclosed by the square were shown in the Figure 2.

#### Figure S2

Western blotting of p-AMPK, AMPK, cyclin D1 and cyclin E expressed in RIN-m cells at 24 h after metformin treatment. The areas enclosed by the square were shown in the Figure 4B.

# Supplementary Materials

Figure S1

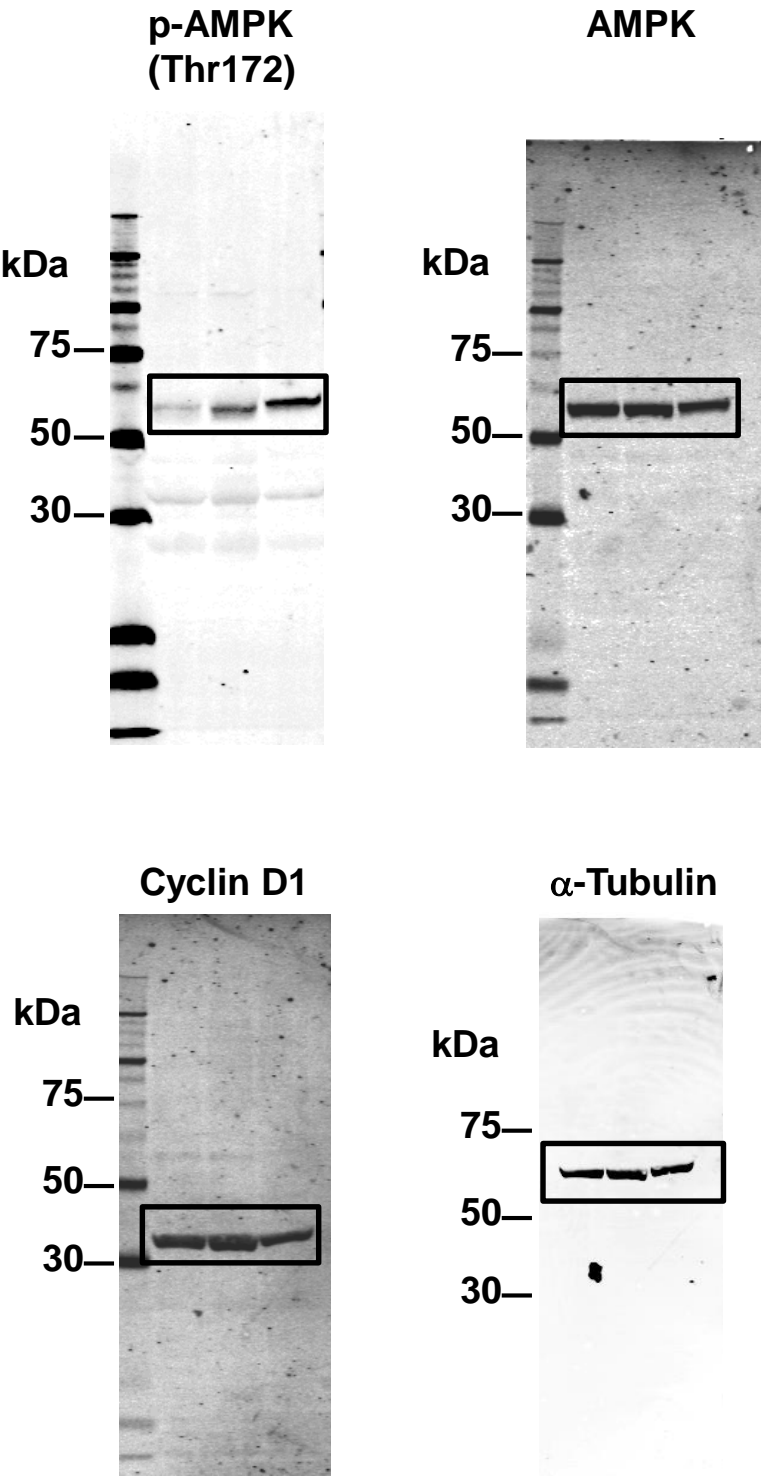
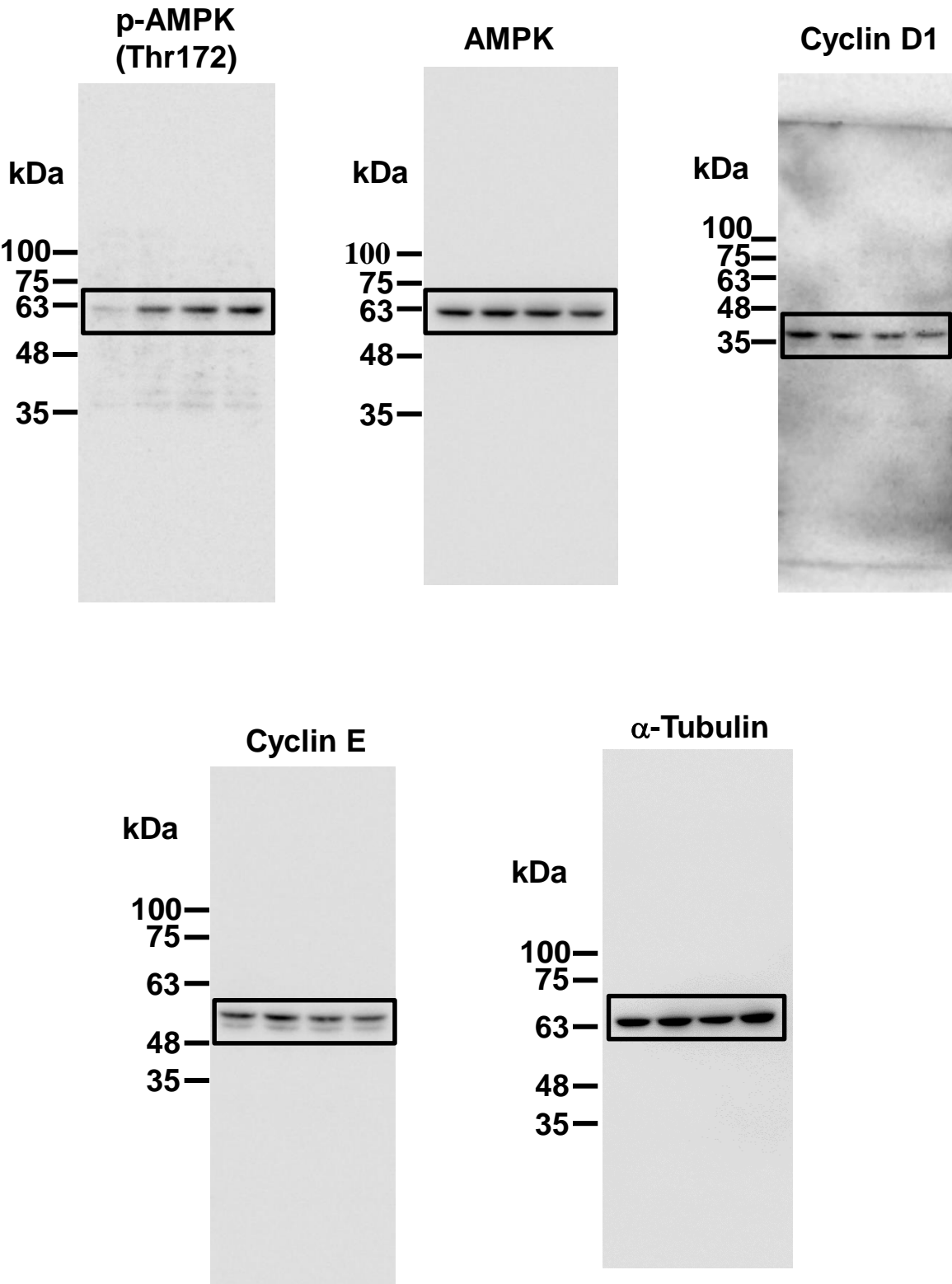


Figure S2



# Supplementary Materials

Table S1 Quantification of band intensities of p-AMPK, AMPK and cyclin D1 in QGP-1 cells at 24 h after metformin treatment

Metformin (mM)	Intensity of the bands		
	0	1.0	2.0
p-AMPK (Thr172)	4027.8	7221.4	7329.9
AMPK	9551.8	9103.3	7851.5
Cyclin D1	8633.2	9999.4	6325.2
$\alpha$ -Tubulin	7417.5	7554.1	7360.6

Band intensities of western blotting of p-AMPK, AMPK, and cyclin D1 in QGP-1 cells were quantified by ImageJ.

Table S2 Relative band intensities of p-AMPK, AMPK and cyclin D1 in QGP-1 cells at 24 h after metformin treatment

Metformin (mM)	Relative intensity of the bands		
	0	1.0	2.0
p-AMPK (Thr172)	1.0	1.9	2.2
AMPK	1.0	0.9	0.8
Cyclin D1	1.0	1.1	0.7
$\alpha$ -Tubulin	1.0	1.0	1.0

Relative band intensities of western blotting of p-AMPK, AMPK, and cyclin D1 were calculated. p-AMPK was normalized by AMPK, and AMPK and cyclin D1 were normalized by  $\alpha$ -tubulin. Relative intensity values were based on that from the non-treatment of metformin.

# Supplementary Materials

Table S3 Quantification of band intensities of p-AMPK, AMPK, cyclin D1 and cyclin E in RIN-m cells at 24 h after metformin treatment

Metformin (mM)	Intensity of the bands			
	0	1.0	2.0	4.0
p-AMPK	2305.3	8648.9	11284.4	13690.2
AMPK	12395.8	13809.8	12456.0	9526.4
Cyclin D1	412311.0	335918.0	282850.0	265894.0
Cyclin E	12269.3	13119.8	9293.8	8761.7
$\alpha$ -tubulin	13725.5	14986.0	12548.2	15961.2

Band intensities of western blotting of p-AMPK, AMPK, cyclin D1 and cyclin E in QGP-1 cells were quantified by ImageJ.

Table S4 Relative band intensities of p-AMPK, AMPK, cyclin D1 and cyclin E in RIN-m cells at 24 h after metformin treatment

Metformin (mM)	Relative intensity of the bands			
	0	1.0	2.0	4.0
p-AMPK	1.0	3.4	4.9	7.7
AMPK	1.0	1.0	1.1	0.7
Cyclin D1	1.0	0.7	0.8	0.6
Cyclin E	1.0	1.0	0.8	0.6
$\alpha$ -tubulin	1.0	1.1	0.9	1.2

Relative band intensities of western blotting of p-AMPK, AMPK, cyclin D1 and cyclin E were calculated. p-AMPK was normalized by AMPK, and AMPK, cyclin D1 and cyclin E were normalized by  $\alpha$ -tubulin. Relative intensity values were based on that from the non-treatment of metformin.