

**Supplementary Information file 1**  
**Initial set of Western blot experiments**  
**(full-length, original, unprocessed versions of blots)**

**Raw data from Western blot experiments using Bax antibody**  
**(Fig. 3 in the manuscript)**

Immunoblotting was conducted with primary antibody against Bax (1:500, #MA5-14003, Invitrogen, USA), 10 % PAAG, 50 µg of protein per track. Samples are labelled (according to the Table 1) above the images.

**Table 1 Sample labelling**

Gel 1 (Bax)	Gel 2 (Bax)
1 – marker;	1 – marker;
2 – Control (31);	2 – Control (33);
3 – DM2 (52);	3 – DM2 (54);
4 – DM2 + met. (41);	4 – DM2 + met. (45);
5 – DM2 + prop. (62);	5 – DM2 + prop. (62);
6 – DM2 + comb. (71);	6 – DM2 + comb. (74);
7 – Control (32);	7 – Control (33);
8 – DM2 (53);	8 – DM2 (52);
9 – DM2 + met. (43);	9 – DM2 + prop. (62);
10 – DM2 + prop. (62).	10 – DM2 + comb. (75).

**Notes:**

marker – protein ladder;

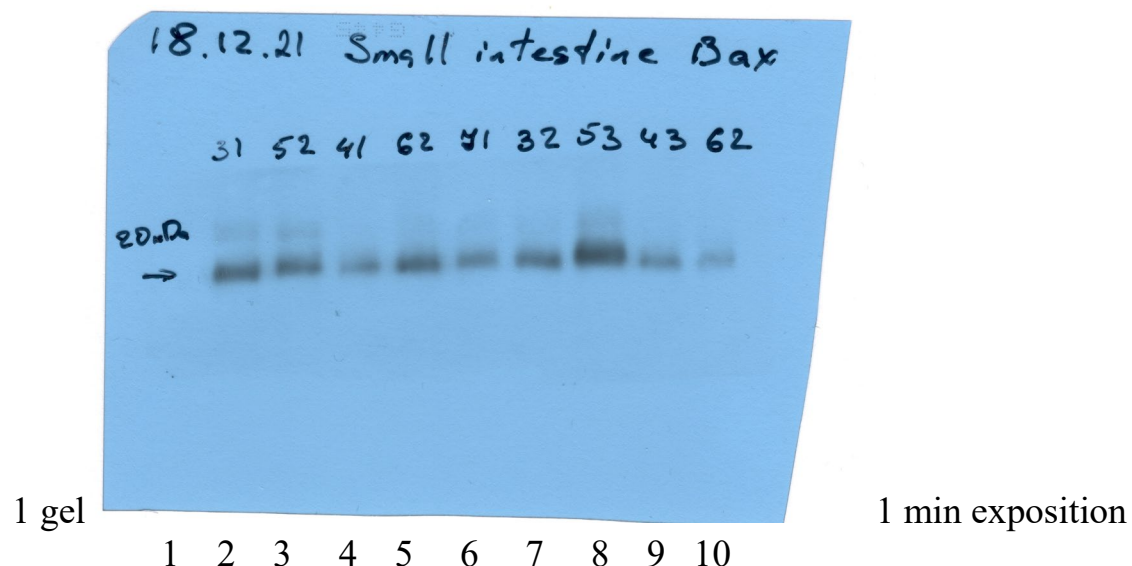
Control – the control group;

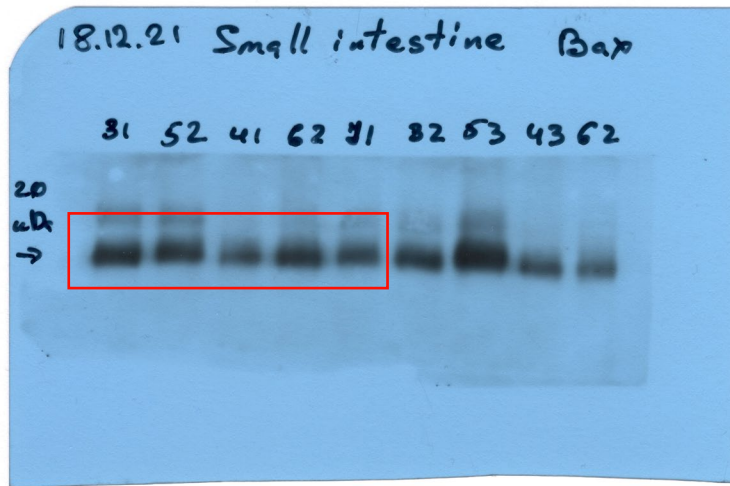
DM2 – the group with experimentally induced type 2 diabetes mellitus (T2DM);

DM2 + met. – the T2DM group that received anti-hyperglycemic agent metformin;

DM2 + prop. – the T2DM group that received sodium salt of propionic acid (PA);

DM2 + comb. – the T2DM group that received concurrently metformin and PA.

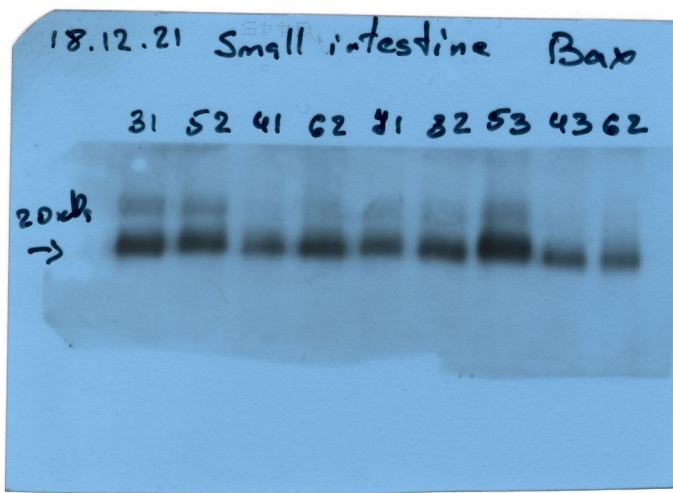




1 gel

3 min exposition

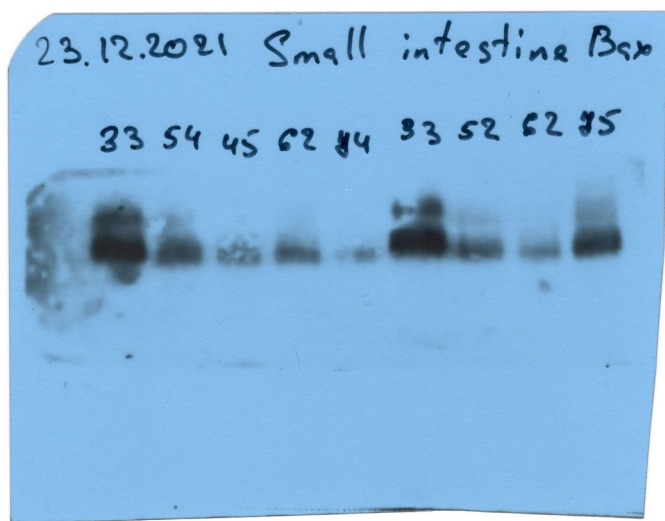
1 2 3 4 5 6 7 8 9 10



1 gel

5 min exposition

1 2 3 4 5 6 7 8 9 10

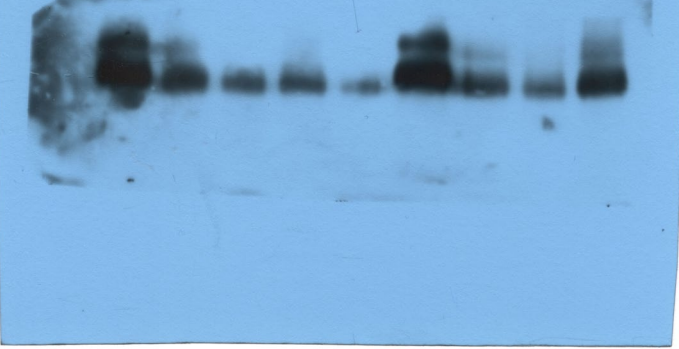


2 gel

5 min exposition

1 2 3 4 5 6 7 8 9 10

23.12.21 Small intestine Bax  
33 54 45 62 74 33 52 62 45



2 gel

1 2 3 4 5 6 7 8 9 10

7 min exposition

**Raw data from Western blot experiments using  $\beta$ -actin antibodies  
(Fig. 3 in the manuscript)**

Immunoblotting was conducted with primary antibody against  $\beta$ -actin (1:5000, A3854, Sigma-Aldrich, USA), 10 % PAAG, 50  $\mu$ g of protein per track. Samples are labelled (according to the Table 2) above the images.

**Table 2 Sample labelling**

Gel 1 ( $\beta$ -actin)	Gel 2 ( $\beta$ -actin)
1 – marker;	1 – marker;
2 – DM2 + met. (45);	2 – Control (31);
3 – DM2 + prop. (62);	3 – DM2 (52);
4 – Control (33);	4 – DM2 + met. (41);
5 – DM2 (54);	5 – DM2 + prop. (62);
6 – DM2 + comb. (74);	6 – DM2 + comb. (71);
7 – DM2 (52);	7 – Control (32);
8 – DM2 + met. (45);	8 – DM2 (53);
9 – DM2 + prop. (62);	9 – DM2 + met. (43);
10 – DM2 + comb. (75).	10 – DM2 + prop. (62).

**Notes:**

marker – protein ladder;

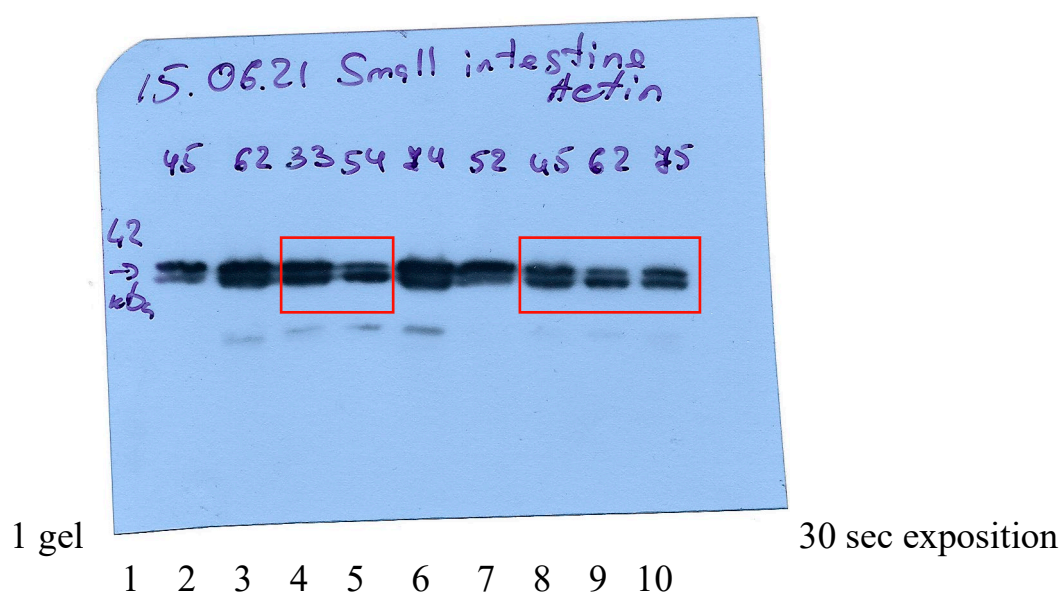
Control – the control group;

DM2 – the group with experimentally induced type 2 diabetes mellitus (T2DM);

DM2 + met. – the T2DM group that received anti-hyperglycemic agent metformin;

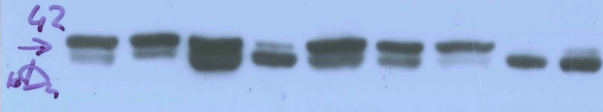
DM2 + prop. – the T2DM group that received sodium salt of propionic acid (PA);

DM2 + comb. – the T2DM group that received concurrently metformin and PA.



18.06.21 Small intestine  
actin

31 52 41 62 41 32 53 43 62



2 gel

1 2 3 4 5 6 7 8 9 10

30 sec exposition

## Raw data from Western blot experiments using Ki67 antibody (Fig. 3 in the manuscript)

Immunoblotting was conducted with primary antibody Ki67 (1:1000, #MA5-14520, Invitrogen, USA), 7.5% PAAG respectively, 50 µg of protein per track. Samples are labelled (according to the Table 3) above the images.

**Table 3 Sample labelling**

Gel 1 (Ki67)
1 – Control (31);
2 – DM2 (52);
3 – DM2 + prop. (62);
4 – DM2 + prop. (66);
5 – DM2 + comb. (71);
6 – DM2 + met. (41);
7 – DM2 + met. (43);
8 – DM2 + met. (45);
9 – DM2 + comb. (75).
10 – marker (M);

### Notes:

marker – protein ladder;

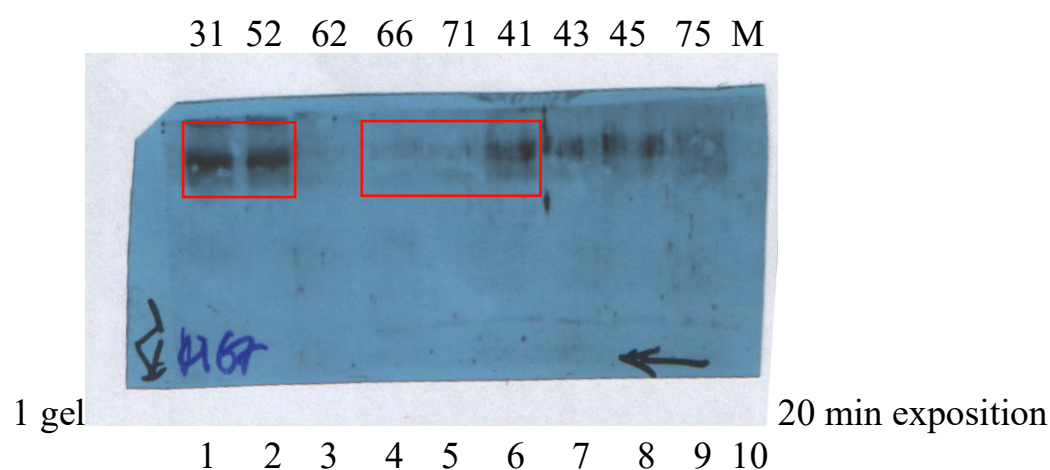
Control – the control group;

DM2 – the group with experimentally induced type 2 diabetes mellitus (T2DM);

DM2 + met. – the T2DM group that received anti-hyperglycemic agent metformin;

DM2 + prop. – the T2DM group that received sodium salt of propionic acid (PA);

DM2 + comb. – the T2DM group that received concurrently metformin and PA.



## Raw data from Western blot experiments using caspase-3 antibody (Fig. 3 in the manuscript)

Immunoblotting was conducted with primary antibody against caspase-3 p17 (1:250, sc-373730, Santa Cruz, USA), 15 % PAAG, 50 µg of protein per track. Samples are labelled (according to the Table 4) above the images.

**Table 4 Sample labelling**

Gel 1 (Ki67)
1 – marker;
2 – Control (31);
3 – DM2 (52);
4 – DM2 + met. (43);
5 – DM2 + met. (41);
6 – DM2 + comb. (74);
7 – Control (32);
8 – DM2 (53);
9 – DM2 + prop. (62);
10 – DM2 + prop. (66).

### Notes:

marker – protein ladder;

Control – the control group;

DM2 – the group with experimentally induced type 2 diabetes mellitus (T2DM);

DM2 + met. – the T2DM group that received anti-hyperglycemic agent metformin;

DM2 + prop. – the T2DM group that received sodium salt of propionic acid (PA);

DM2 + comb. – the T2DM group that received concurrently metformin and PA.

