

1 **Supplemental Data**

2 **Widhalm et al. “Human placental cell line HTR-8/SVneo accumulates cadmium by divalent metal**  
3 **transporters DMT1 and ZIP14”.**

4

5

6 **Suppl. Table 1 Primers used in qPCR**

Gene	Assay ID	Link
MT1A	Hs00831826_s1	<a href="https://www.thermofisher.com/taqman-gene-expression/product/Hs00831826_s1?CID=&amp;ICID=&amp;subtype=">https://www.thermofisher.com/taqman-gene-expression/product/Hs00831826_s1?CID=&amp;ICID=&amp;subtype=</a>
MT1E	Hs01938284_g1	<a href="https://www.thermofisher.com/taqman-gene-expression/product/Hs01938284_g1?CID=&amp;ICID=&amp;subtype=">https://www.thermofisher.com/taqman-gene-expression/product/Hs01938284_g1?CID=&amp;ICID=&amp;subtype=</a>
MT1X	Hs00745167_sH	<a href="https://www.thermofisher.com/taqman-gene-expression/product/Hs00745167_sH?CID=&amp;ICID=&amp;subtype=">https://www.thermofisher.com/taqman-gene-expression/product/Hs00745167_sH?CID=&amp;ICID=&amp;subtype=</a>
MT2A	Hs04194247_g1	<a href="https://www.thermofisher.com/taqman-gene-expression/product/Hs04194247_g1?CID=&amp;ICID=&amp;subtype=">https://www.thermofisher.com/taqman-gene-expression/product/Hs04194247_g1?CID=&amp;ICID=&amp;subtype=</a>
SLC11A2	HS00167206_m1	<a href="https://www.thermofisher.com/taqman-gene-expression/product/Hs00167206_m1?CID=&amp;ICID=&amp;subtype=">https://www.thermofisher.com/taqman-gene-expression/product/Hs00167206_m1?CID=&amp;ICID=&amp;subtype=</a>
SLC39A14	Hs00299262_m1	<a href="https://www.thermofisher.com/taqman-gene-expression/product/Hs00299262_m1?CID=&amp;ICID=&amp;subtype=">https://www.thermofisher.com/taqman-gene-expression/product/Hs00299262_m1?CID=&amp;ICID=&amp;subtype=</a>
SLC39A8	Hs01061802_m1	<a href="https://www.thermofisher.com/taqman-gene-expression/product/Hs01061802_m1?CID=&amp;ICID=&amp;subtype=">https://www.thermofisher.com/taqman-gene-expression/product/Hs01061802_m1?CID=&amp;ICID=&amp;subtype=</a>
UBC	Hs00824723_m1	<a href="https://www.thermofisher.com/taqman-gene-expression/product/Hs00824723_m1?CID=&amp;ICID=&amp;subtype=">https://www.thermofisher.com/taqman-gene-expression/product/Hs00824723_m1?CID=&amp;ICID=&amp;subtype=</a>

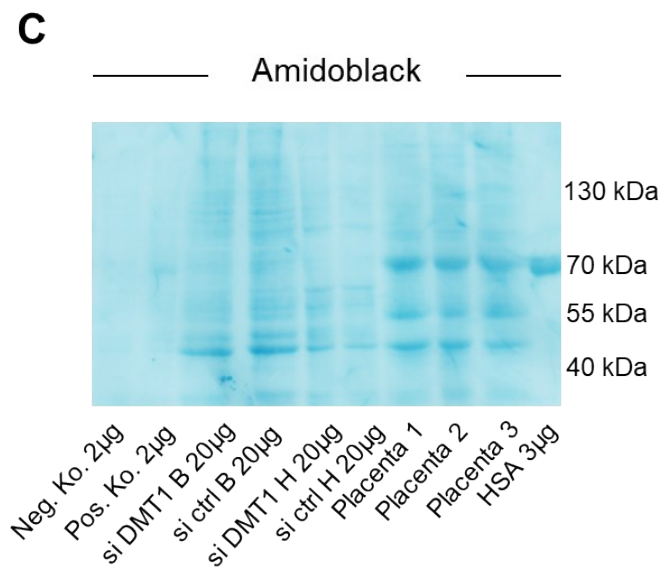
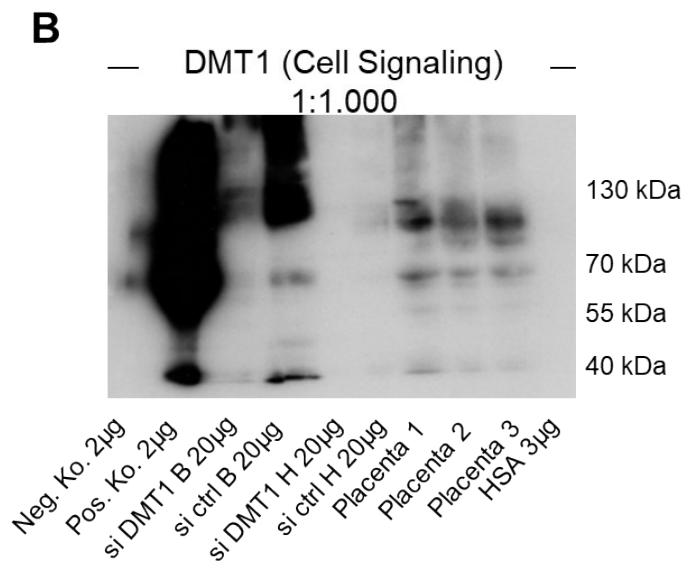
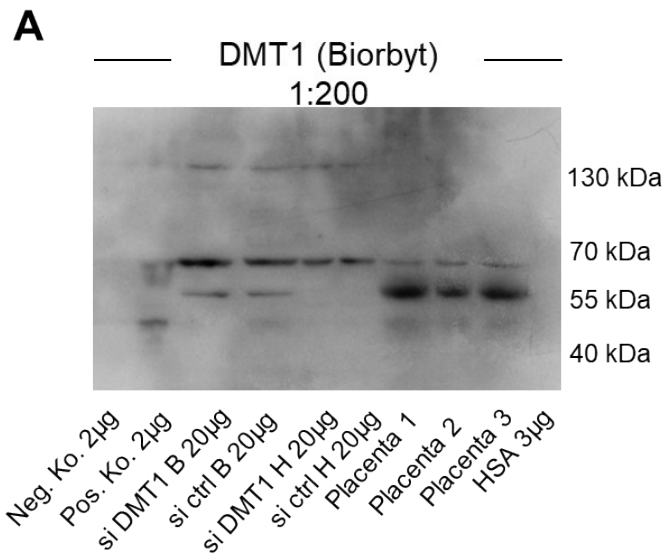
7

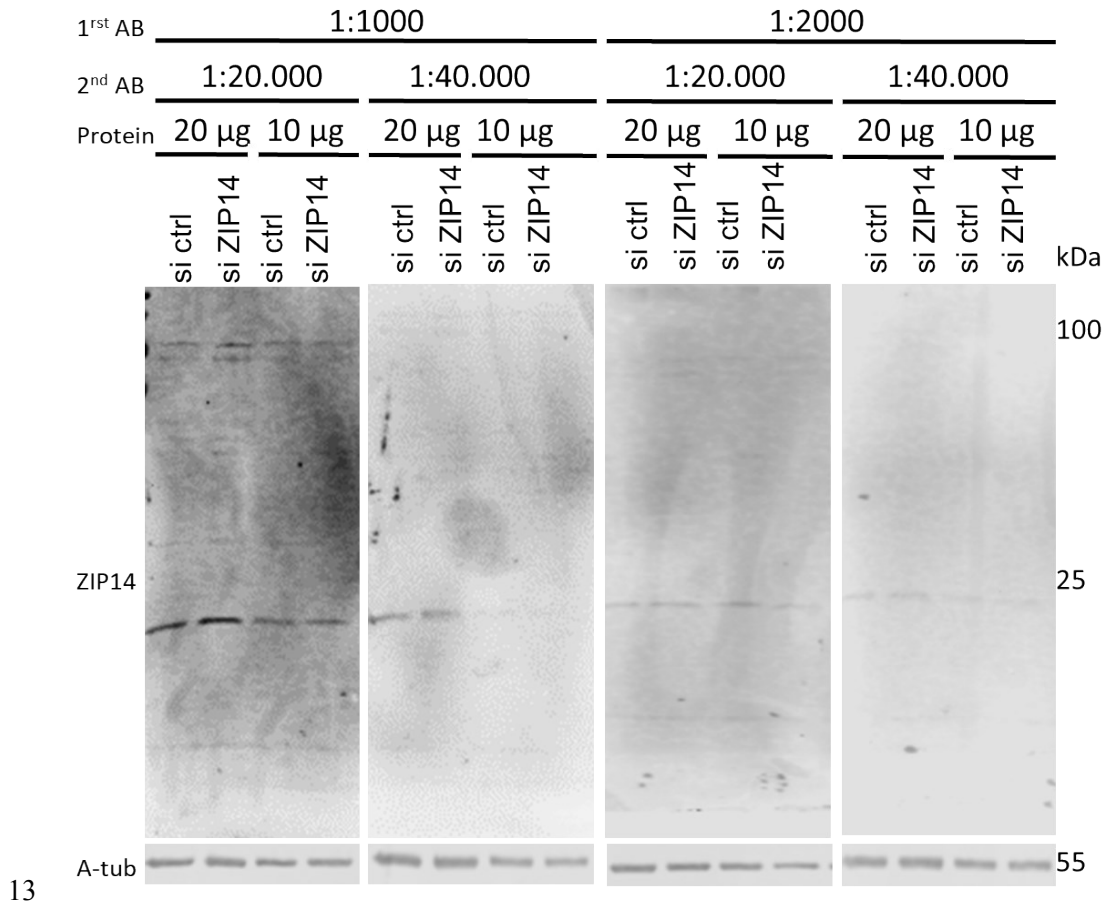
8

9

10

11

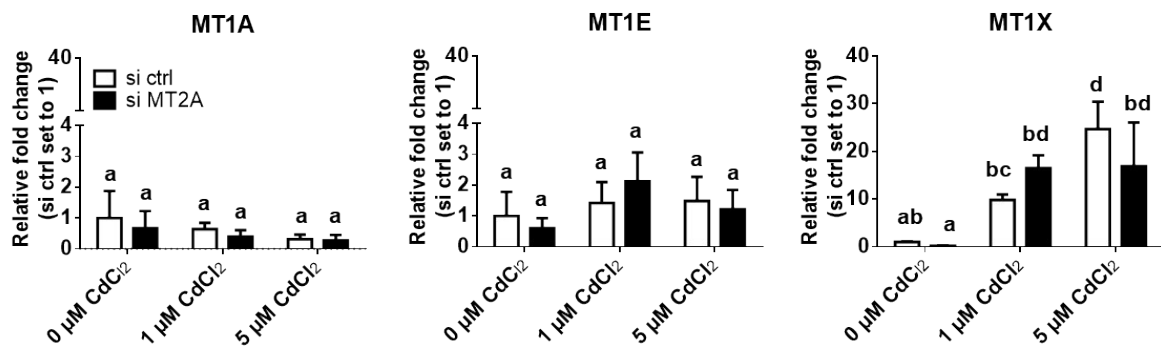




13

14 **Suppl Fig. 2**

15



16

17 **Suppl Fig. 3**

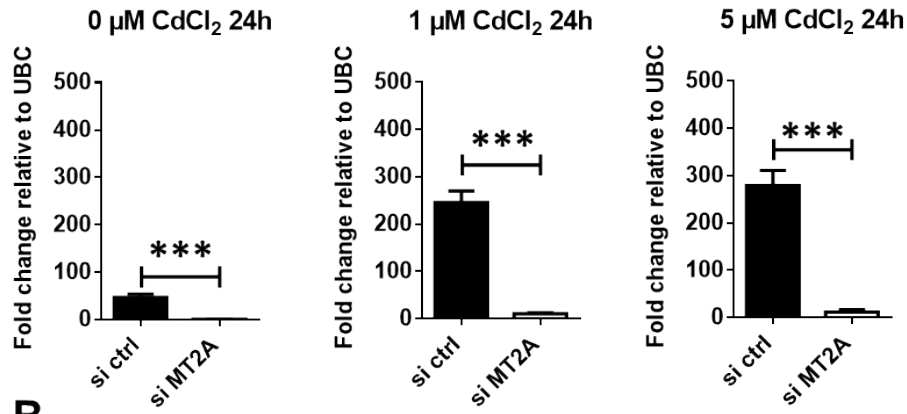
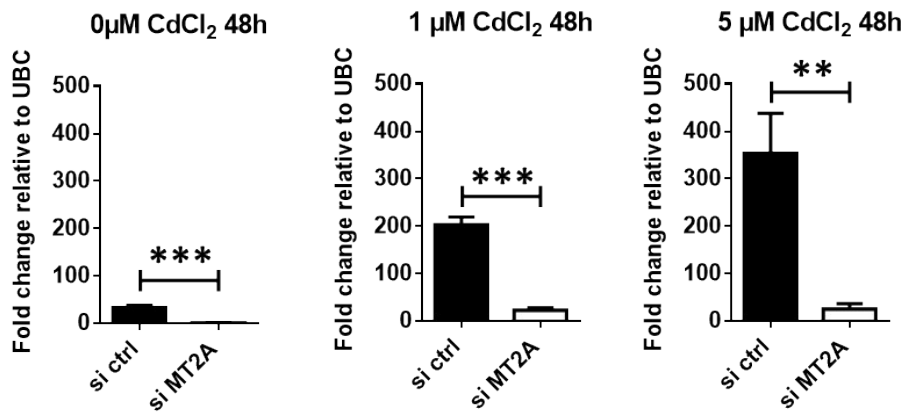
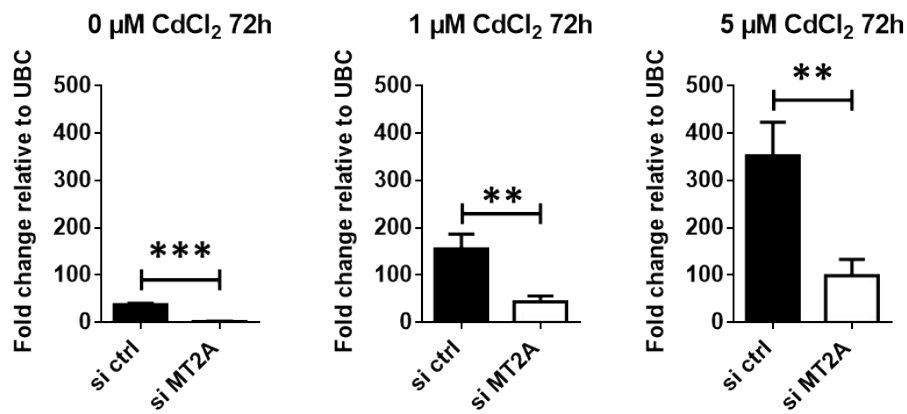
18

19

20

21

22

**A****B****C**

23

24 Suppl Fig.4

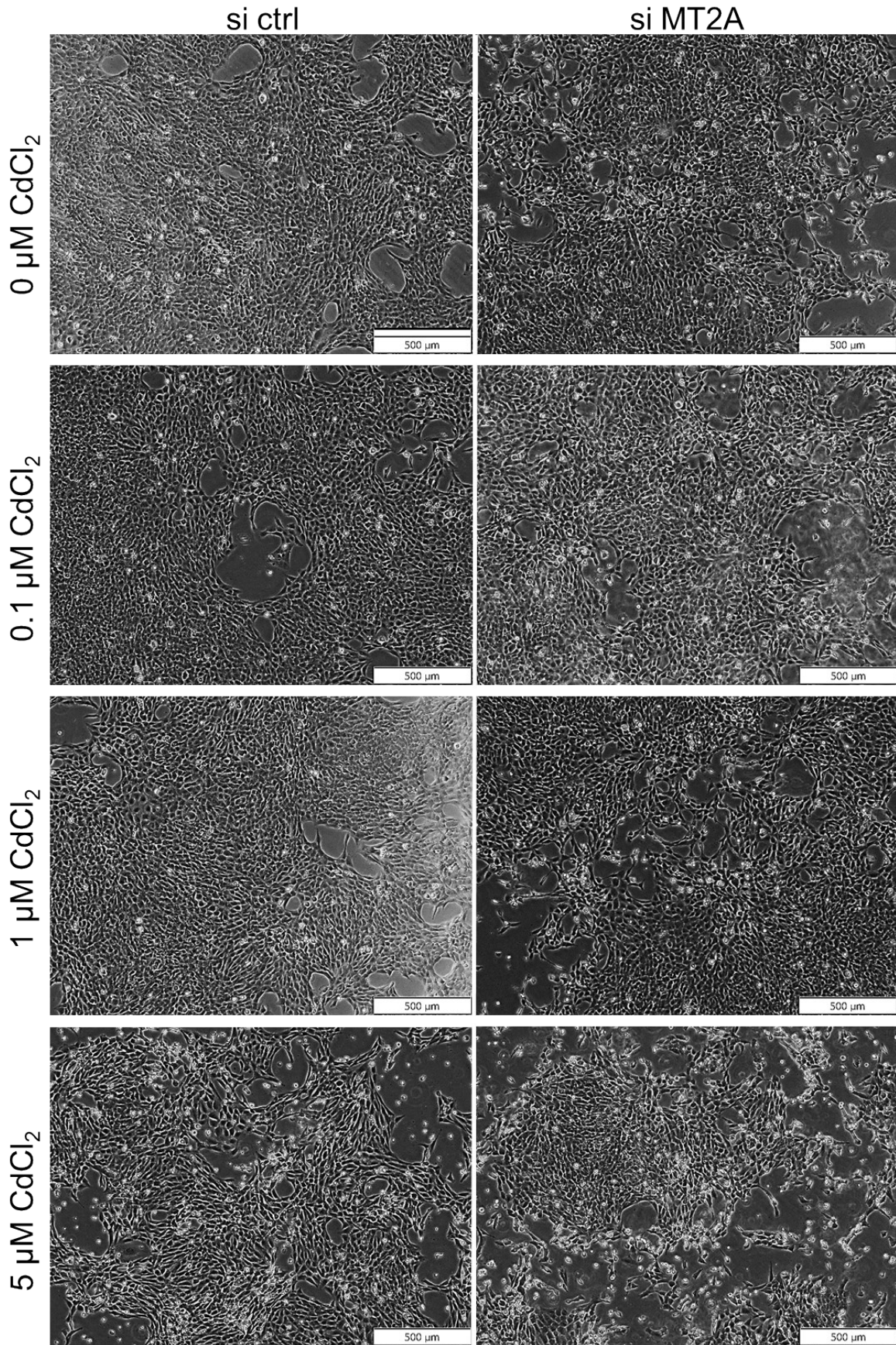
25

26

27

28

29



30

31 **Suppl Fig. 5**

32

33 **TABLE and FIGURE LEGENDS**

34

35 **Suppl. Table 1 Primers used in qPCR**

36

37 **Suppl. Fig. 1 Validation of DMT1 antibodies for localisation studies (a)** Detection of DMT1 by immunoblot  
38 using either a rabbit anti-human DMT1 antibody from Biorbyt (#orb5976) or a rabbit anti-human DMT1 antibody  
39 from Cell Signaling. Lysates of commercial negative (OriGene, # LY500001) and positive (OriGene, # LY433268)  
40 controls (Neg. Con., Pos. Con.), lysates of BeWo and HTR-8/SVneo cells subjected to siRNA-mediated DMT1  
41 gene knock down (si DMT1 B, si ctrl B; si DMT1 H, si ctrl H), whole placenta lysates 1-3, as well as human serum  
42 albumin (HSA) were separated on reducing 7.5 % SDS-gels, transferred onto PVDF membranes and probed first  
43 with the DMT1 antibody from Biorbyt (1:200) followed by an HRP-labelled secondary antibody (1:10.000).  
44 Afterwards, the membrane was stripped and incubated with the DMT1 antibody from Cell Signaling (1:1000)  
45 followed by an HRP-labelled secondary antibody (1:10.000). Binding of antibodies was detected using enhanced  
46 chemiluminescence. Total proteins were detected with Amido black staining. Specific detection of DMT1 was  
47 only observed for the employed Cell Signaling Antibody

48

49 **Suppl. Fig. 2 Validation of ZIP14 antibody.** Protein lysates (10 and 20 µg) from control and ZIP14 depleted  
50 cells were separated by SDS-PAGE and blotted on nitrocellulose. The membrane was cut and incubated over night  
51 with antibodies for ZIP14 (Invitrogen, PA5-87880) and  $\alpha$ -tubulin (A-tub; Sigma Aldrich, CP06) either 1:1000 or  
52 1:2000 diluted and exposed to secondary antibody (IRDye® 800CW Goat anti-Rabbit IgG Secondary Antibody,  
53 LI-COR, 926-32211) diluted 1:20.000 or 1:40.000 for 1h at room temperature and pictures taken with an *Odyssey*  
54 *imager* (LI-COR).

55

56 **Suppl. Fig. 3 Levels of MT1A, MT1E and MT1X in Cd treated cells after MT2A depletion.** Control and  
57 MT2A depleted cells were treated with indicated Cd concentrations for 24h and expression of MT1A, MT1E and  
58 MT1X evaluated. si ctrl treated with 0 µM CdCl<sub>2</sub> was set to 1. The data represent mean values  $\pm$  SD from three  
59 independent experiments made in triplicate. The letters a-d denote homogeneous subgroups derived from one-way  
60 ANOVA and S-N-K posthoc test (p<0.05)

61

62 **Suppl. Fig. 4 MT2A knockdown verification.** Control and MT2A depleted cells were exposed to indicated Cd  
63 concentrations for 24h (A), 48h (B) and 72h (C) and their MT2A expression analysed by qPCR. The data represent  
64 mean values  $\pm$  SD from three independent experiments made in six technical replicates. \*\*p<0.01, \*\*\* p<0.001  
65 from students t-test.

66

67 **Suppl. Fig. 5 Phase contrast images of MT2A depleted cells exposed to Cd.** Control and MT2A depleted cells  
68 were incubated with indicated Cd concentrations for 48h. Bar represents 500 µm.

69

70

71