SUPPLEMENTARY MATERIAL

Screening of Relevant Metabolism-Disrupting Chemicals on Pancreatic β-Cells: Evaluation of Murine and Human In Vitro Models

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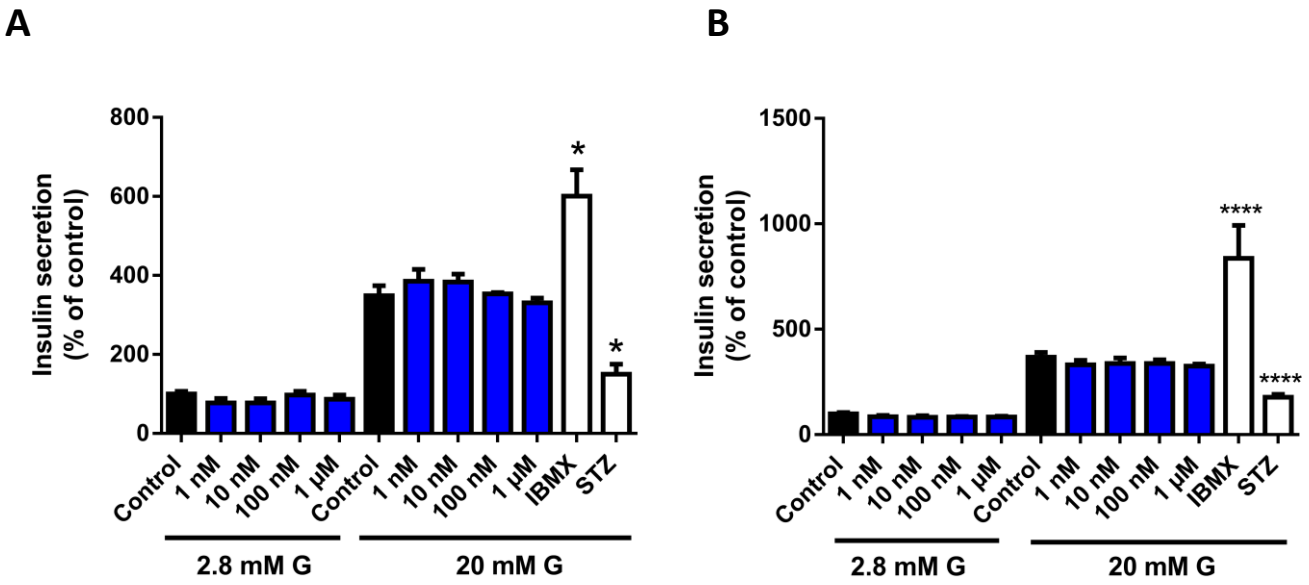
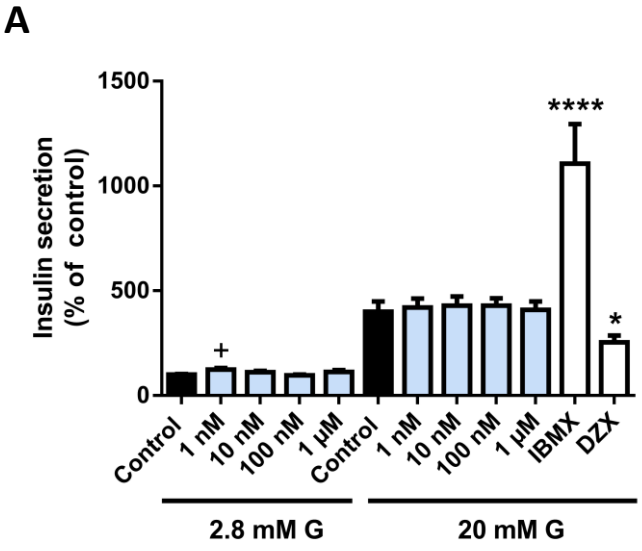


Supplemental Figure S1. Glucose-stimulated insulin secretion (GSIS) in EndoC-βH1 cells treated with BPA (1 nM–1 µM) for 24 h (A) or 48 h (B). n = two independent experiments (A), n = three independent experiments (B). * vs. Control 20 mM G; *p < 0.05, ****p < 0.0001, one-way ANOVA followed by Dunnet's post hoc test. All data are expressed as mean ±SEM.

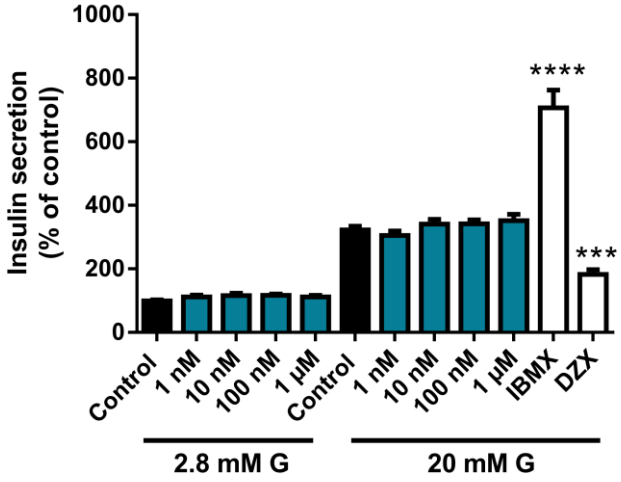


B

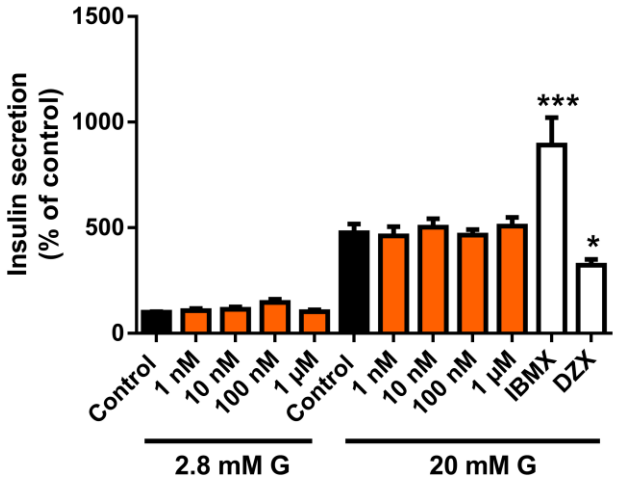
24 h	Resazurin	Neutral red	CFDA-AM
Control	100.0 ± 0.5	100.0 ± 1.6	100.0 ± 2.3
BPF 1 nM	98.4 ± 0.6	102.3 ± 1.9	98.4 ± 2.1
BPF 10 nM	96.1 ± 1.0 *	104.6 ± 1.9	94.9 ± 2.1
BPF 100 nM	94.0 ± 1.3 ***	107.1 ± 2.0	90.4 ± 2.3 **
BPF 1 µM	91.2 ± 1.2 ****	109.5 ± 3.0 **	92.5 ± 2.5 *
48 h	**Resazurin**	**Neutral red**	**CFDA-AM**
Control	100.0 ± 0.5	100.0 ± 1.7	100.0 ± 1.6
BPF 1 nM	96.2 ± 0.8	103.1 ± 1.3	95.5 ± 1.8
BPF 10 nM	93.2 ± 0.4 ***	104.2 ± 2.1	99.8 ± 2.0
BPF 100 nM	87.9 ± 1.2 ****	106.7 ± 1.6 *	94.0 ± 1.6
BPF 1 µM	90.0 ± 1.2 ****	106.0 ± 0.9 *	94.2 ± 2.6
72 h	**Resazurin**	**Neutral red**	**CFDA-AM**
Control	100.0 ± 0.7	100.0 ± 1.2	100.0 ± 1.6
BPF 1 nM	99.8 ± 0.7	106.0 ± 1.6 *	94.7 ± 2.9
BPF 10 nM	98.8 ± 1.2	108.5 ± 1.8 ***	98.2 ± 3.1
BPF 100 nM	96.6 ± 1.0	106.2 ± 1.7 *	94.6 ± 2.5
BPF 1 µM	94.5 ± 1.2 ***	105.4 ± 1.1 *	96.3 ± 2.2

Supplemental Figure S2. (A) GSIS in EndoC-βH1 cells treated with BPF (1 nM–1 µM) for 72 h. n = three independent experiments. + vs. Control 2.8 mM G and * vs. Control 20 mM G; +p < 0.05, *p < 0.05, ****p < 0.0001, one-way ANOVA followed by Dunnet's post hoc test. (B) Viability of EndoC-βH1 cells treated for 72 h with different BPF concentrations (1 nM-1 µM) as evaluated by RZ, NR and CFDA-AM assays. n = four independent experiments. * vs. Control; *p < 0.05, **p < 0.01, ***p < 0.001 and

****p < 0.0001, one-way ANOVA followed by Dunnet's post hoc test or Kruskal-Wallis followed by Dunn's post hoc test. All data are expressed as mean ± SEM.



Supplemental Figure S3. GSIS in EndoC-βH1 cells treated with DEHP (1 nM–1 µM) for 72 h. n = six independent experiments. * vs. Control 20 mM G; ***p < 0.001, ****p < 0.0001, one-way ANOVA followed by Dunnet's post hoc test. All data are expressed as mean ± SEM.



Supplemental Figure S4. GSIS in EndoC-βH1 cells treated with DDE (1 nM–1 µM) for 72 h. n = three independent experiments. * vs. Control 20 mM G; *p < 0.05, ***p < 0.001, ANOVA one way followed by Dunnet's post hoc test. All data are expressed as mean ± SEM.

MIN6							
48 h	**Resazurin**	**Neutral red**	**CFDA-AM**	**48 h**	**Resazurin**	**Neutral red**	**CFDA-AM**
Control	100.0 ± 0.9	100.0 ± 0.9	100.0 ± 0.8	**Control**	100.0 ± 1.9	100.0 ± 0.8	100.0 ± 0.7
BPA 100 pM	93.5 ± 1.4 *	99.9 ± 1.1	96.0 ± 1.0	**BPS 100 pM**	90.6 ± 2.8 *	93.3 ± 1.5 ***	96.5 ± 1.7
BPA 1 nM	86.4 ± 2.3 ****	100.5 ± 1.3	90.2 ± 1.6 ****	**BPS 1 nM**	89.0 ± 3.3 *	96.8 ± 1.3	96.6 ± 1.2
BPA 10 nM	87.7 ± 1.6 ****	93.3 ± 1.8	92.4 ± 1.2 ***	**BPS 10 nM**	89.2 ± 3.1 *	96.3 ± 1.0	95.1 ± 1.3 *
BPA 100 nM	89.7 ± 1.5 ***	100.7 ± 1.3	94.4 ± 1.4 *	**BPS 100 nM**	89.6 ± 2.9 *	97.5 ± 1.1	94.9 ± 1.2 *
BPA 1 µM	85.6 ± 2.2 ****	85.1 ± 3.2 *	88.1 ± 1.2 ****	**BPS 1 µM**	87.0 ± 2.6 **	96.6 ± 1.0	92.9 ± 1.1 ***
BPA 10 µM	87.4 ± 3.4 **	100.1 ± 1.6	92.0 ± 1.5 ****	**BPS 10 µM**	84.1 ± 2.3 ****	89.9 ± 1.4 ****	93.0 ± 1.2 ***
72 h	**Resazurin**	**Neutral red**	**CFDA-AM**	**72 h**	**Resazurin**	**Neutral red**	**CFDA-AM**
Control	100.0 ± 1.2	100.0 ± 1.2	100.0 ± 0.7	**Control**	100.0 ± 2.0	100.0 ± 0.7	100.0 ± 1.1
BPA 100 pM	89.3 ± 2.8 *	92.4 ± 3.7	94.4 ± 1.6 *	**BPS 100 pM**	97.3 ± 2.3	100.5 ± 0.9	98.1 ± 1.2
BPA 1 nM	94.1 ± 2.0	103.9 ± 2.0	98.2 ± 1.2	**BPS 1 nM**	92.6 ± 2.3	101.3 ± 0.9	94.6 ± 1.3*
BPA 10 nM	78.2 ± 1.9 ****	85.3 ± 2.3 **	88.4 ± 1.2 ****	**BPS 10 nM**	90.9 ± 2.4 *	99.9 ± 1.1	94.3 ± 1.4**
BPA 100 nM	103.8 ± 2.0	116.0 ± 2.5 **	102.3 ± 0.9	**BPS 100 nM**	92.2 ± 2.1	102.9 ± 1.0	94.8 ± 1.3*
BPA 1 µM	96.2 ± 2.7	107.5 ± 3.6	96.3 ± 1.5	**BPS 1 µM**	94.3 ± 2.1	102.5 ± 1.1	95.2 ± 1.2*
BPA 10 µM	82.8 ± 3.1 ****	83.9 ± 3.5 **	88.9 ± 1.8 ****	**BPS 10 µM**	93.7 ± 2.1	99.9 ± 1.7	95.2 ± 1.3*
48 h	**Resazurin**	**Neutral red**	**CFDA-AM**	**48 h**	**Resazurin**	**Neutral red**	**CFDA-AM**
Control	100.0 ± 1.1	100.0 ± 1.0	100.0 ± 0.9	**Control**	100.0 ± 3.0	100.0 ± 0.7	100.0 ± 4.2
PFOS 100 pM	91.9 ± 1.9 **	93.4 ± 1.9 *	95.6 ± 1.5 *	**$CdCl_2$ 100 pM**	92.6 ± 1.6	87.1 ± 3.8	91.5 ± 3.5
PFOS 1 nM	94.4 ± 1.8 *	93.5 ± 2.5 **	99.7 ± 2.0	**$CdCl_2$ 1 nM**	83.3 ± 3.5 **	71.1 ± 2.1 ****	86.7 ± 2.7
PFOS 10 nM	89.2 ± 1.2 ****	83.9 ± 2.1 ****	94.5 ± 0.9 **	**$CdCl_2$ 10 nM**	83.9 ± 3.2 *	83.3 ± 3.2	86.1 ± 3.0
PFOS 100 nM	92.9 ± 1.5 **	96.8 ± 1.9	97.4 ± 1.0	**$CdCl_2$ 100 nM**	80.2 ± 2.5 **	72.1 ± 3.3 ***	78.2 ± 5.0 *
PFOS 1 µM	83.7 ± 2.5 ****	82.7 ± 1.7 ****	86.9 ± 1.8 ****	**$CdCl_2$ 1 µM**	63.4 ± 2.4 ****	56.2 ± 2.7 ****	57.9 ± 3.5 ****
PFOS 10 µM	95.0 ± 1.1	92.7 ± 1.1 *	94.8 ± 1.4 **	**$CdCl_2$ 10 µM**	9.7 ± 2.3 ****	2.2 ± 0.9 ****	17.1 ± 3.6 ****
72 h	**Resazurin**	**Neutral red**	**CFDA-AM**	**72 h**	**Resazurin**	**Neutral red**	**CFDA-AM**
Control	100.0 ± 1.7	100.0 ± 2.3	100.0 ± 0.9	**Control**	100.0 ± 1.8	100.0 ± 0.6	100.0 ± 1.3
PFOS 100 pM	97.6 ± 2.3	100.9 ± 2.2	97.3 ± 1.2	**$CdCl_2$ 100 pM**	92.2 ± 2.0	95.9 ± 0.8 *	95.3 ± 1.2
PFOS 1 nM	95.6 ± 2.3	101.3 ± 2.2	96.2 ± 1.2	**$CdCl_2$ 1 nM**	88.5 ± 2.3 **	92.1 ± 0.8 ****	94.2 ± 1.5
PFOS 10 nM	94.2 ± 2.5	97.3 ± 2.4	96.8 ± 1.2	**$CdCl_2$ 10 nM**	89.5 ± 2.2 *	91.9 ± 0.8 ****	94.0 ± 1.4
PFOS 100 nM	97.3 ± 2.6	101.7 ± 2.8	96.6 ± 1.3	**$CdCl_2$ 100 nM**	91.1 ± 2.3	92.3 ± 1.2 ****	94.1 ± 1.5
PFOS 1 µM	97.3 ± 2.1	99.8 ± 2.3	96.8 ± 1.1	**$CdCl_2$ 1 µM**	86.9 ± 2.7 **	90.1 ± 1.4 ****	92.4 ± 1.6 **
PFOS 10 µM	102.3± 2.3	101.0 ± 2.8	98.5 ± 1.1	**$CdCl_2$ 10 µM**	0 ± 0.3 ****	53.2 ± 1.4 ****	10.8 ± 0.4 ****
48 h	**Resazurin**	**Neutral red**	**CFDA-AM**	**48 h**	**Resazurin**	**Neutral red**	**CFDA-AM**
Control	100.0 ± 1.6	100.0 ± 1.0	100.0 ± 1.0	**Control**	100.0 ± 0.9	100.0 ± 0.8	100.0 ± 1.0
DEHP 100 pM	95.8 ± 1.9	99.0 ± 1.4	96.7 ± 1.5	**DDE 100 pM**	95.6 ± 1.3	102.9 ± 1.5	97.0 ± 1.5
DEHP 1 nM	94.1 ± 2.0	97.8 ± 1.0	96.7 ± 1.3	**DDE 1 nM**	95.6 ± 1.5	100.9 ± 2.3	95.9 ± 1.2
DEHP 10 nM	92.9 ± 2.2	94.1 ± 1.3 **	95.5 ± 1.7	**DDE 10 nM**	85.4 ± 1.8 ****	89.1 ± 1.9 **	93.5 ± 1.6 **
DEHP 100 nM	94.1 ± 2.2	99.6 ± 1.4	96.0 ± 1.4	**DDE 100 nM**	94.4 ± 1.3 *	101.2 ± 1.8	99.9 ± 1.4
DEHP 1 µM	91.3 ± 2.5 *	93.5 ± 1.2 **	94.7 ± 1.4 *	**DDE 1 µM**	91.1 ± 1.4 ***	95.2 ± 1.5	96.1 ± 1.3
DEHP 10 µM	92.5 ± 3.5	79.5 ± 1.7 ****	83.2 ± 3.2 ****	**DDE 10 µM**	77.4 ± 4.1 ****	79.5 ± 4.5 ****	87.6 ± 2.2 ***
72 h	**Resazurin**	**Neutral red**	**CFDA-AM**	**72 h**	**Resazurin**	**Neutral red**	**CFDA-AM**
Control	100.0 ± 1.6	100.0 ± 1.7	100.0 ± 1.4	**Control**	100.0 ± 1.7	100.0 ± 1.0	100.0 ± 1.1
DEHP 100 pM	94.3 ± 1.9	96.2 ± 1.8	93.6 ± 0.9 **	**DDE 100 pM**	99.5 ± 3.7	111.4 ± 2.7 *	99.1 ± 1.6
DEHP 1 nM	95.4 ± 1.6	99.0 ± 2.0	95.3 ± 1.0 *	**DDE 1 nM**	94.4 ± 4.1	106.8 ± 2.8	96.6 ± 2.0
DEHP 10 nM	93.3 ± 1.9 *	96.8 ± 1.4	95.2 ± 1.0 *	**DDE 10 nM**	96.5 ± 4.7	113.5 ± 3.0 **	97.9 ± 2.3
DEHP 100 nM	95.3 ± 1.7	99.2 ± 2.1	96.8 ± 0.9	**DDE 100 nM**	94.5 ± 5.0	113.9 ± 3.2 **	96.9 ± 2.4
DEHP 1 µM	88.6 ± 2.2 ***	90.7 ± 1.9 **	94.6 ± 1.0 *	**DDE 1 µM**	93.5 ± 4.5	109.1 ± 2.6	95.1 ± 2.1
DEHP 10 µM	59.1 ± 3.7 ****	47.1 ± 2.9 ****	65.9 ± 3.3 ****	**DDE 10 µM**	40.7 ± 2.4 *	82.4 ± 6.2	69.9 ± 5.1 *

Supplemental Table S1. Viability of MIN6 cells treated for 48 or 72 h with different BPA, BPS, $CdCl_2$, PFOS, DDE or DEHP concentrations (100 pM–10 µM) as evaluated by RZ, NR and CFDA-AM assays. n= at least three independent experiments. * vs. Control; *p < 0.05, **p < 0.01, ***p < 0.001 and ****p < 0.0001, one-way ANOVA followed by Dunnet's post hoc test or Kruskal-Wallis followed by Dunn's post hoc test. All data are expressed as mean ± SEM.

EndoC-βH1							
24 h	**Resazurin**	**Neutral red**	**CFDA-AM**	**24 h**	**Resazurin**	**Neutral red**	**CFDA-AM**
Control	100.0 ± 0.5	100.0 ± 2.0	100.0 ± 0.8	**Control**	100.0 ± 1.0	100.0 ± 1.2	100.0 ± 0.7
BPA 1 nM	100.0 ± 1.5	103.5 ± 1.8	98.3 ± 2.0	**BPS 1 nM**	103.8 ± 1.4	104.4 ± 1.8	102.8 ± 1.3
BPA 10 nM	99.1 ± 1.4	104.3 ± 1.5	99.0 ± 1.3	**BPS 10 nM**	105.4 ± 1.2 *	107.5 ± 2.0 *	104.4 ± 1.3
BPA 100 nM	98.3 ± 1.3	104.2 ± 2.2	97.9 ± 1.1	**BPS 100 nM**	102.7 ± 1.6	101.3 ± 3.2	104.7 ± 2.4
BPA 1 μM	96.2 ± 1.4	103.5 ± 2.8	96.2 ± 1.3	**BPS 1 μM**	95.9 ± 1.9	98.4 ± 1.2	95.7 ± 1.6
48 h	**Resazurin**	**Neutral red**	**CFDA-AM**	**72 h**	**Resazurin**	**Neutral red**	**CFDA-AM**
Control	100.0 ± 0.9	100.0 ± 1.8	100.0 ± 1.2	**Control**	100.0 ± 0.9	100.0 ± 1.5	100.0 ± 0.7
BPA 1 nM	100.4 ± 0.5	106.9 ± 1.2	99.3 ± 0.8	**BPS 1 nM**	100.7 ± 1.5	105.0 ± 2.5	98.7 ± 2.1
BPA 10 nM	98.3 ± 1.0	105.6 ± 2.0	97.1 ± 1.1	**BPS 10 nM**	99.2 ± 2.3	103.3 ± 2.4	99.4 ± 1.9
BPA 100 nM	96.1 ± 1.4	104.6 ± 2.3	94.7 ± 1.5 *	**BPS 100 nM**	104.3 ± 1.8	110.9 ± 2.9 **	100.4 ± 2.5
BPA 1 μM	94.9 ± 1.5 **	98.1 ± 3.4	93.1 ± 1.5 ***	**BPS 1 μM**	97.5 ± 1.8	97.0 ± 1.5	95.1 ± 1.2
24 h	**Resazurin**	**Neutral red**	**CFDA-AM**	**24 h**	**Resazurin**	**Neutral red**	**CFDA-AM**
Control	100.0 ± 0.4	100.0 ± 1.5	100.0 ± 0.8	**Control**	100.0 ± 0.8	100.0 ± 0.8	100.0 ± 1.3
PFOS 1 nM	99.4 ± 0.7	104.6 ± 1.3*	99.0 ± 0.9	**$CdCl_2$ 1 nM**	99.7 ± 1.3	101.2 ± 1.4	99.6 ± 1.7
PFOS 10 nM	98.0 ± 0.8	108.5 ± 1.1****	95.4 ± 1.2	**$CdCl_2$ 10 nM**	98.5 ± 1.5	102.3 ± 1.8	102.5 ± 1.6
PFOS 100 nM	97.4 ± 0.6 *	106.8 ± 0.9 **	94.4 ± 1.4 *	**$CdCl_2$ 100 nM**	98.5 ± 1.5	101.7 ± 1.7	103.9 ± 2.2
PFOS 1 μM	98.3 ± 0.8	107.3 ± 1.5 ***	92.8 ± 2.1 ***	**$CdCl_2$ 1 μM**	97.2 ± 0.9	97.7 ± 1.7	102.7 ± 3.1
48 h	**Resazurin**	**Neutral red**	**CFDA-AM**	**48 h**	**Resazurin**	**Neutral red**	**CFDA-AM**
Control	100.0 ± 0.3	100.0 ± 0.9	100.0 ± 0.9	**Control**	100.0 ± 0.4	100.0 ± 0.5	100.0 ± 1.0
PFOS 1 nM	98.7 ± 0.5	107.5 ± 0.7 ****	102.2 ± 1.7	**$CdCl_2$ 1 nM**	95.6 ± 0.8 **	101.2 ± 1.0	101.1 ± 1.1
PFOS 10 nM	96.8 ± 0.8 **	111.3 ± 1.1 ****	98.8 ± 1.7	**$CdCl_2$ 10 nM**	93.0 ± 1.2 ****	102.5 ± 1.4	103.1 ± 1.6
PFOS 100 nM	98.1 ± 0.9	105.9 ± 1.2 ***	96.9 ± 2.0	**$CdCl_2$ 100 nM**	92.1 ± 1.2 ****	102.7 ± 1.8	101.6 ± 1.8
PFOS 1 μM	99.3 ± 0.7	107.0 ± 1.5 ****	92.8 ± 2.1	**$CdCl_2$ 1 μM**	96.3 ± 0.7 *	99.7 ± 1.5	103.0 ± 2.5
24 h	**Resazurin**	**Neutral red**	**CFDA-AM**	**24 h**	**Resazurin**	**Neutral red**	**CFDA-AM**
Control	100.0 ± 0.3	100.0 ± 1.0	100.0 ± 1.4	**Control**	100.0 ± 0.6	100.0 ± 0.9	100.0 ± 1.0
DEHP 1 nM	98.8 ± 0.6	103.4 ± 1.5	100.8 ± 1.9	**DDE 1 nM**	98.4 ± 0.7	100.8 ± 1.2	99.4 ± 0.7
DEHP 10 nM	98.3 ± 0.7	103.9 ± 1.1	101.7 ± 1.7	**DDE 10 nM**	97.5 ± 0.8	101.9 ± 1.2	97.4 ± 0.8
DEHP 100 nM	97.0 ± 0.8 *	102.5 ± 1.2	98.2 ± 1.5	**DDE 100 nM**	95.5 ± 0.7 ***	99.7 ± 1.1	95.4 ± 1.2 **
DEHP 1 μM	98.6 ± 1.2	100.1 ± 2.1	93.5 ± 2.2*	**DDE 1 μM**	94.5 ± 1.2 ****	96.9 ± 1.1	95.7 ± 0.9 **
48 h	**Resazurin**	**Neutral red**	**CFDA-AM**	**48 h**	**Resazurin**	**Neutral red**	**CFDA-AM**
Control	100.0 ± 0.4	100.0 ± 0.8	100.0 ± 1.5	**Control**	100.0 ± 0.6	100.0 ± 0.4	100.0 ± 0.9
DEHP 1 nM	100.1 ± 1.1	102.9 ± 0.7	98.3 ± 2.3	**DDE 1 nM**	100.7 ± 0.9	104.8 ± 0.9 ***	100.6 ± 1.0
DEHP 10 nM	99.3 ± 0.9	107.4 ± 1.8 *	106.7 ± 2.8	**DDE 10 nM**	96.8 ± 1.6	106.2 ± 0.6 ****	95.5 ± 1.6
DEHP 100 nM	97.5 ± 0.7	106.9 ± 1.6 *	98.3 ± 1.1	**DDE 100 nM**	96.7 ± 1.4	104.6 ± 0.7 ***	97.6 ± 1.8
DEHP 1 μM	101.7 ± 0.9	100.1 ± 2.8	85.9 ± 2.4 ****	**DDE 1 μM**	96.5 ± 0.9 *	95.3 ± 1.2 ***	94.8 ± 1.5 *
72 h	**Resazurin**	**Neutral red**	**CFDA-AM**	**72 h**	**Resazurin**	**Neutral red**	**CFDA-AM**
Control	100.0 ± 0.6	100.0 ± 1.5	100.0 ± 1.0	**Control**	100.0 ± 1.1	100.0 ± 1.4	100.0 ± 1.0
DEHP 1 nM	95.3 ± 1.2 *	102.5 ± 1.9	91.7 ± 1.6 **	**DDE 1 nM**	98.9 ± 1.7	100.6 ± 2.5	100.0 ± 1.9
DEHP 10 nM	99.5 ± 0.8	104.8 ± 2.1	100.3 ± 2.5	**DDE 10 nM**	99.4 ± 1.8	103.6 ± 2.5	100.0 ± 1.8
DEHP 100 nM	98.5 ± 0.6	105.6 ± 2.1	98.1 ± 2.5	**DDE 100 nM**	100.3 ± 1.1	103.2 ± 2.0	100.7 ± 1.7
DEHP 1 μM	99.4 ± 1.4	98.3 ± 3.2	85.4 ± 3.0 ***	**DDE 1 μM**	97.4 ± 0.8	96.7 ± 1.6	96.5 ± 1.5

Supplemental Table S2. Viability of EndoC-βH1 cells treated for 24, 48 or 72 h with different BPA, BPS, $CdCl_2$, PFOS, DDE or DEHP concentrations (1 nM–1 μM) as evaluated by RZ, NR and CFDA-AM assays. n= at least four independent experiments. * vs. Control; *p < 0.05, **p < 0.01, ***p < 0.001 and ****p < 0.0001, one-way ANOVA followed by Dunnet's post hoc test or Kruskal-Wallis followed by Dunn's post hoc test. All data are expressed as mean ± SEM.

	GEN	FORWARD (5'->3')	REVERSE (5'->3')	REFSEQ (NM)
MIN6	*Ins*	TTATTGTTTCAACATGGCCC	CAAAGGTGCTGCTTGACAAA	001185083
	Pdx1	GGCCTGGAAGAGCCCAACCG	TGTGTAAGCACCTCCTGCCCACT	008814
	Hnf4α	TCTGGATGACCAGGTGGCGCT	GGACACACGGCTCATCTCCGC	008261
	MafA	CCCGTCTTGGCCCTCCATGATT	TATCCCGCCGTGTCTGTGTGG	194350
	Kir6.2	CCCGTCTTGGCCCTCCATGATT	TATCCCGCCGTGTCTGTGTGG	010602
	Sur1	TGCCTCAGGACAAGCAACC	GACCACTGTCCTCTTGTCATC	011510
	Glut2	ATCGCTCCAACCACACTCAG	CTGAGGCCAGCAATCTGACTA	031197
	Gck	TTCAGCTTCTGGCCTCCCACAG	AAAACAGCCAGGTCTGGGCAGC	010292
	Hprt	GGTTAAGCAGTACAGCCCCA	TCCAACACTTCGAGAGGTCC	013556
	Actb	GGCTGTATTCCCCTCCATCG	CCAGTTGGTAACAATGCCATGT	007393
EndoC-βH1	*INS*	AAGCAGATCACTGTCCTTC	ACACTAGGTAGAGAGCTTCC	000207
	PDX1	CCTTTCCCATGGATGAAGTC	CGAACTCCTTCTCCAGCTCTA	000209
	HNF4α	CGAAGGTCAAGCTATGAGGACA	ATCTGCGATGCTGGCAATCT	178849
	MAFA	TTCTCCTTGTACAGGTCCCG	GAGAGCGAGAAGTGCCAACT	201589
	MAFB	AAGCCTCTCACCCTAGGAGC	GGAAAACAGATCCTCCCCTC	005461
	KIR6.2	AGGTCCAAGTGACTATTGGCT	TCTGCACGATGAGGATCAGGA	000525
	SUR1	TCGTGAATCTGCTGTCCAAAG	CGATGGCTCGCAAGTCGAT	001287174
	SNAP25	TCGTGTAGTGGACGAACGG	TCTCATTGCCCATATCCAGGG	003081
	GLUT1	TCTGGCATCAACGCTGTCTTC	CGATACCGGAGCCAATGGT	006516
	GCK	TGCTACTACGAAGACCATCAGT	CCACTCGGTATTGACGCACA	000162
	HPRT1	GCCCTGGCGTCGTGATTAGT	AGCAAGACGTTCAGTCCTGTCCATAA	000194
	ACTB	CACCATTGGCAATGAGCGGTTC	AGGTCTTTGCGGATGTCCACGT	001101

Supplemental Table S3. Primer sequences used in RT-qPCR for the study of pancreatic β-cell gene expression.