

Supplemental Digital Content (SDC 1- Combined File)

SDC 2, Table 1

Insulin secretion of rat islets stimulated and cultured during 14 days (n = 20, means $\pm$ SE mU/L)

	Standard culture		Co-culture	
	Low glucose	High glucose	Low glucose	High glucose
1 Day	12.98 $\pm$ 1.02	13.04 $\pm$ 0.87	24.71 $\pm$ 1.55	24.91 $\pm$ 2.30
3 Day	12.55 $\pm$ 0.56	12.5 $\pm$ 0.79	22.10 $\pm$ 0.73	23.55 $\pm$ 1.52
5 Day	10.78 $\pm$ 0.67	10.89 $\pm$ 1.15	20.33 $\pm$ 0.82	22.45 $\pm$ 1.33
7 Day	9.38 $\pm$ 0.67	9.64 $\pm$ 0.70	18.13 $\pm$ 0.92	21.28 $\pm$ 1.51
14 Day	6.59 $\pm$ 0.65	7.49 $\pm$ 0.66	11.23 $\pm$ 0.79	18.84 $\pm$ 0.87

Low glucose(LG): 3.3 mmol/L; High glucose(HG): 16.7 mmol/L.

SDC 3, Table 2

Simulation index of two culture groups in Rat Islets (n = 20)

	Standard culture	Co-culture	<i>P</i> value
1 Day	1.91±0.17	1.94±0.15	0.73
3 Day	1.76±0.07	1.89±0.14 [▲]	0.037
5 Day	1.89±0.13	2.10±0.17	0.097
7 Day	1.94±0.15	2.21±0.21★	0.009
14 Day	1.71±0.19	2.53±0.21★	<0.0001

▲*P*<0.05 , ★*P*<0.01

SDC 4, Table 3

Fasting blood glucose level in 4 groups of diabetic rats (means $\pm$ SE mmol/l)

	Group A(n=5)	Group B(n=5)	Group C(n=5)	Group D(n=5)
Day 0	22.91 $\pm$ 1.50	22.96 $\pm$ 1.74	22.93 $\pm$ 0.95	23.28 $\pm$ 0.82
Day 1	21.70 $\pm$ 1.89	18.42 $\pm$ 1.26	22.35 $\pm$ 1.33	22.52 $\pm$ 1.20
Day 2	18.3 $\pm$ 1.34	16.12 $\pm$ 0.76 [▲]	22.15 $\pm$ 0.85	22.24 $\pm$ 0.76
Day 3	10.15 $\pm$ 0.74	5.60 $\pm$ 0.64 [★]	21.03 $\pm$ 0.75	21.52 $\pm$ 1.28
Day 4	10.93 $\pm$ 1.47	5.38 $\pm$ 0.66	21.60 $\pm$ 1.35	21.86 $\pm$ 1.3
Day 5	11.85 $\pm$ 2.23	5.44 $\pm$ 0.93	21.70 $\pm$ 1.63	21.92 $\pm$ 1.5
Day 7	13.42 $\pm$ 2.19	5.50 $\pm$ 0.94	20.60 $\pm$ 0.90	20.86 $\pm$ 0.98
Day 10	14.03 $\pm$ 1.71	5.92 $\pm$ 0.87	21.08 $\pm$ 1.17	21.14 $\pm$ 1.02
Day 14	14.934 $\pm$ 0.94	6.36 $\pm$ 1.01	21.03 $\pm$ 1.07	21.28 $\pm$ 1.09

Group A: infusion of islet grafts; Group B: combined vascular ECs and islet grafts; Group C: single ECs infusion; Group D: PBS injection.

▲: $P < 0.05$, ★: $P < 0.01$

SDC 5, Table 4

Insulin concentration in 4 groups of diabetic rats (means $\pm$ SE μ IU/ml)

	Group A(n=5)	Group B(n=5)	Group C(n=5)	Group D(n=5)
Day 0	2.02 $\pm$ 0.24	2.10 $\pm$ 0.25	2.05 $\pm$ 0.21	2.04 $\pm$ 0.30
Day 1	2.04 $\pm$ 0.25	2.26 $\pm$ 0.27	2.03 $\pm$ 0.19	2.09 $\pm$ 0.26
Day 2	3.20 $\pm$ 0.34	5.12 $\pm$ 0.97★	1.98 $\pm$ 0.58	2.05 $\pm$ 0.26
Day 3	7.24 $\pm$ 0.52	8.40 $\pm$ 0.68★	2.08 $\pm$ 0.31	2.02 $\pm$ 0.58
Day 4	6.92 $\pm$ 1.03	8.7 $\pm$ 0.57	2.11 $\pm$ 0.24	2.04 $\pm$ 0.13
Day 5	5.12 $\pm$ 0.90	12.56 $\pm$ 0.77	2.08 $\pm$ 0.43	2.0 $\pm$ 0.22
Day 7	4.98 $\pm$ 0.94	12.36 $\pm$ 0.57	2.11 $\pm$ 0.35	2.02 $\pm$ 0.39
Day 10	4.74 $\pm$ 1.14	11.74 $\pm$ 1.04	2.05 $\pm$ 0.29	1.96 $\pm$ 0.24
Day 14	4.02 $\pm$ 0.68	11.22 $\pm$ 0.79	2.01 $\pm$ 0.31	2.02 $\pm$ 0.19

Group A: infusion of islet grafts; Group B: combined vascular ECs and islet grafts; Group C: single ECs infusion; Group D: PBS injection.

★: $P < 0.01$