

**Table S1. Summary of injection experiments**

Injection	Cells injected	Marker analysis	Number of embryos	
pt- $\beta$ -catenin (0.25 ng)	Anterior D1	51% repressed <i>for1</i>	n=70	Stage 35
		53% repressed <i>pdx1</i>	n=72	Stage 35
		32% repressed <i>nkx2.1</i>	n=65	Stage 35
		44% repressed <i>c-troponin</i>	n=9	Stage 35
		74% repressed <i>hhex1</i>	n=46	Stage 18
		41% repressed <i>foxa2</i>	n=22	Stage 18
		39% ectopic <i>vent2</i>	n=26	Stage 18
Gsk3 $\beta$ (0.5 ng)	Posterior D4	52% ectopic <i>for1</i>	n=90	Stage 35
		64% ectopic <i>pdx1</i>	n=58	Stage 35
		21% ectopic <i>nkx2.5</i>	n=19	Stage 35
		10% ectopic <i>nkx2.1</i>	n=20	Stage 35
		40% ectopic <i>ambp</i>	n=5	Stage 42
		44% ectopic <i>elastase</i>	n=9	Stage 42
		0% ectopic <i>insulin</i>	n=13	Stage 42
		60% ectopic <i>amylase</i>	n=5	Stage 42
		75% ectopic <i>ptf1a</i>	n=8	Stage 42
		49% ectopic <i>hhex</i>	n=220	Stage 18
		46% increased <i>foxa2</i>	n=59	Stage 18
		71% repressed <i>endocut</i>	n=17	Stage 35
		47% repressed <i>vent2</i>	n=47	Stage 18
		$\Delta$ NTcf3 (0.8 ng)	Posterior D4	50% ectopic <i>for1</i>
69% ectopic <i>pdx1</i>	n=13			Stage 35
52% ectopic <i>hhex</i>	n=21			Stage 18
87% repressed <i>vent2</i>	n=16			Stage 18
$\beta$ -catenin-MO (40 ng)	Posterior D4	49% ectopic <i>hhex</i>	n=33	Stage 18
		68% repressed <i>vent2</i>	n=37	Stage 18
Gsk3 $\beta$ (0.5 ng) +Hex-MO (80 ng)	Posterior D4	0% ectopic <i>for1</i>	n=45	Stage 35
		0% ectopic <i>pdx1</i>	n=34	Stage 35
Hex-MO (80 ng)	Anterior D1	100% repressed <i>for1</i>	n=28	Stage 35
		86% repressed <i>pdx1</i>	n=14	Stage 35
Gsk3 $\beta$ (0.5 ng) +Vent2 (0.5 ng)	Posterior D4	0% ectopic <i>for1</i>	n=39	Stage 35
		5% ectopic <i>pdx1</i>	n=22	Stage 35
		4% ectopic <i>hhex</i>	n=57	Stage 18
Vent2 (0.5 ng)	Anterior D1	47% repressed <i>for1</i>	n=27	Stage 35
		54% repressed <i>pdx1</i>	n=31	Stage 35
		63% repressed <i>hhex</i>	n=62	Stage 18
		47% repressed <i>foxa2</i>	n=15	Stage 18