Table S1A: Statistical comparison of distributions of Ucn3-negative immature, Ucn3-low and mature beta cells. Related to Figures 1 and S1.

Differences in distribution	lower left = approximate p-value from Kruskal-Wallis test
	upper right = Kolmogorov-Smirnov D statistic (= largest vertical difference between two distributions)

Figure 1J: Normalized cumulative distribution of indicated populations (3, 6 and 9 wks; 3, 8 and 14 months)

	cell number	α cells	immature β cells	Ucn3 low β cells	mature β cells	all cells
α cells	**2703**		0.1591	0.2105	0.5813	0.4712
immature β cells	**279**	0.8319		0.1245	0.561	0.454
Ucn3 low β cells	**341**	<0.0001	0.0568		0.4587	0.3495
mature β cells	**13576**	<0.0001	<0.0001	<0.0001		0.1104
all cells	**16899**	<0.0001	<0.0001	<0.0001	<0.0001	

Figure S1A: Normalized cumulative distribution of indicated populations at P2

	cell number	α cells	immature β cells	Ucn3 low β cells	mature β cells
α cells	**253**		0.3003	0.4142	0.4369
immature β cells	**64**	<0.0001		0.1958	0.2238
Ucn3 low β cells	**68**	<0.0001	>0.9999		0.1261
mature β cells	**350**	<0.0001	0.1096	>0.9999	

Figure S1B: Normalized cumulative distribution of indicated populations at P7

	cell number	α cells	immature β cells	Ucn3 low β cells	mature β cells
α cells	**440**		0.3173	0.3933	0.431
immature β cells	**47**	0.002		0.131	0.1998
Ucn3 low β cells	**103**	<0.0001	>0.9999		0.0923
mature β cells	**1069**	<0.0001	0.1252	>0.9999	

Figure S1C: Normalized cumulative distribution of indicated populations at 3 weeks

	cell number	α cells	immature β cells	Ucn3 low β cells	mature β cells
α cells	**799**		0.2282	0.2784	0.5436
immature β cells	**31**	0.8119		0.236	0.4979
Ucn3 low β cells	**63**	0.0002	>0.9999		0.3594
mature β cells	**1737**	<0.0001	<0.0001	<0.0001	

Figure S1D: Normalized cumulative distribution of indicated populations at 6 weeks

	cell number	α cells	immature β cells	Ucn3 low β cells	mature β cells
α cells	**345**		0.2813	0.2683	0.6566
immature β cells	**38**	>0.9999		0.1887	0.6305
Ucn3 low β cells	**29**	0.1978	>0.9999		0.5241
mature β cells	**1621**	<0.0001	<0.0001	<0.0001	

Figure S1E: Normalized cumulative distribution of indicated populations at 9 weeks

	cell number	α cells	immature β cells	Ucn3 low β cells	mature β cells
α cells	**453**		0.3755	0.4699	0.603
immature β cells	**35**	0.0925		0.2231	0.5231
Ucn3 low β cells	**52**	<0.0001	>0.9999		0.3484
mature β cells	**1823**	<0.0001	<0.0001	0.0001	

Figure S1F: Normalized cumulative distribution of indicated populations at 3 months

	cell number	α cells	immature β cells	Ucn3 low β cells	mature β cells
α cells	**414**		0.3485	0.2715	0.6594
immature β cells	**38**	>0.9999		0.1532	0.5993
Ucn3 low β cells	**45**	0.0944	>0.9999		0.4767
mature β cells	**1960**	<0.0001	<0.0001	<0.0001	

Figure S1G: Normalized cumulative distribution of indicated populations at 8 months

	cell number	α cells	immature β cells	Ucn3 low β cells	mature β cells
alpha	**321**		0.2517	0.2902	0.7151
immature β cells	**118**	0.271		0.092	0.6004
hilo	**125**	0.046	>0.9999		0.5752
double	**3924**	<0.0001	<0.0001	<0.0001	

Figure S1H: Normalized cumulative distribution of indicated populations at 14 months

	cell number	α cells	immature β cells	Ucn3 low β cells	mature β cells
α cells	**372**		0.2668	0.4116	0.6106
immature β cells	**19**	>0.9999		0.3977	0.6885
Ucn3 low β cells	**27**	0.7253	>0.9999		0.6249
mature β cells	**2511**	<0.0001	<0.0001	<0.0001	

Table S1B: Statistical comparison of distributions of Ucn3-negative immature beta cells with Glut2, G6pc2 or Ero1lb. Related to Figures 3 and 4.

Differences in distribution	lower left = approximate p-value from Kruskal-Wallis test upper right = Kolmogorov-Smirnov D statistic (= largest vertical difference between two distributions)

Figure 3F: Distribution of G6pc2-negative beta cells at the periphery of the islet

	cell number	**insulin+ β cells**	**insulin+G6pc2 + β cells**	**mature β cells**	**all β cells**
insulin+ β cells	**12**		0.4167	0.6695	0.6582
insulin+G6pc2+ β cells	**51**	0.1846		0.377	0.3658
mature β cells	**2266**	<0.0001	<0.0001		0.0112
all β cells	**2329**	<0.0001	<0.0001	>0.9999	

Figure 3I: Distribution of Ero1lb-negative beta cells at the periphery of the islet

	cell number	**insulin+ β cells**	**insulin+ Ucn3+ β cells**	**insulin+ Ero1lb+ β cells**	**mature β cells**	**all β cells**
insulin+ β cells	**31**		0.301	0.2977	0.5019	0.472
insulin+Ucn3+ β cells	**21**	>0.9999		0.3142	0.2934	0.2617
insulin+Ero1lb+ β cells	**100**	>0.9999	>0.9999		0.5163	0.4847
mature β cells	**1921**	<0.0001	0.1807	<0.0001		0.0325
all β cells	**2073**	0.0002	0.3365	<0.0001	0.5645	

Figure 4B: Distribution of Glut2-negative beta cells at the periphery of the islet

	cell number	**insulin+ β cells**	**insulin+Ucn3+ β cells**	**insulin+Glut2 + β cells**	**mature β cells**	**all β cells**
insulin+ β cells	**179**		0.2193	0.412	0.7105	0.6563
insulin+Ucn3+ β cells	**408**	>0.9999		0.3817	0.6602	0.6008
insulin+Glut2+ β cells	**31**	0.1554	0.5969		0.5384	0.4835
mature β cells	**6165**	<0.0001	<0.0001	<0.0001		0.0594
all β cells	**6783**	<0.0001	<0.0001	<0.0001	<0.0001	

Table S1C: Statistical comparison of distributions of beta cells with an alpha cell lineage label to conventional alpha and beta cells. Related to Figure 6.

Differences in distributi	lower left = approximate p-value from Kruskal-Wallis test upper right = Kolmogorov-Smirnov D statistic (= largest vertical difference between two distributions)

Figure 6C: Observed distribution of alpha lineage-labeled beta cells

	number	**alpha cells**	**labelled beta**	**mature beta**	**total cells**
alpha cells	**413**		0.3041	0.6348	0.5534
lineage-labelled beta cel	**38**	0.2084		0.5022	0.4222
mature beta	**2996**	<0.0001	<0.0001		0.0814
total cells	**3459**	<0.0001	<0.0001	<0.0001	