ESM Table 1 Breakdown of characteristics for the EADB and nPOD biobanks (N=235) from people with type 1 diabetes diagnosed < 18 years.

	EADB n=124 (53%)	nPOD n=111 (47%)
Age (years), Median [25th;75th]	11.0 [6.9;15.0]	22.0 [16.3;32.5]
Diabetes Duration (years), Median [25th;75th]	0.2 [0.03;3.0]	12.0 [6.0;23.0]
Age-at-diagnosis (years), Median [25th;75th]	8.0 [4.0;13.0]	8.0 [5.0;12.8]
Sex, Male, N (%):	46 (37%)	56 (50%)
Donors with islets containing insulin+ beta cells, N (%):		
None	40 (32%)	75 (68%)
Present	84 (68%)	36 (32%)

ESM Table 2 Summary break down of proportions of donors from the UK GRID cohort (N=4079) with detectable C-peptide and pancreas donors from EADB and nPOD cohorts (N=235) with islets containing insulin+ beta cells within age-at-diagnosis (< 7, 7-12, ≥ 13 years) and diabetes duration (< 1,1-5,5-10, ≥ 10 years) groups.

Duration (years)	Age-at-diagnosis (years)	UK GRID (N=4079)		EADB and nPOD (N=235)	
		Total number of donors (N)	Number of donors with detectable C-peptide (n (%))	Total number of donors (N)	Number of donors with islets containing insulin+ beta cells (n (%))
<1	<7	20	18 (90%)	26	23 (88%)
<1	7-12	110	107 (97%)	33	32 (97%)
<1	≥13	61	58 (95%)	25	22 (88%)
1-5	<7	522	172 (33%)	12	1 (8.3%)
1-5	7-12	995	604 (61%)	13	7 (54%)
1-5	≥13	289	225 (78%)	8	7 (88%)
5-10	<7	635	43 (6.8%)	14	3 (21%)
5-10	7-12	533	102 (19%)	17	7 (41%)
5-10	≥13	69	30 (43%)	14	9 (64%)
≥10	<7	489	21 (4.3%)	34	3(8.8%)
≥10	7-12	249	25 (10%)	26	4 (15%)
≥10	≥13	107	12 (11%)	13	2 (15%)

ESM Table 3 Summary of pancreas donors from EADB and nPOD cohorts with islets containing insulin+ beta cells (n=120) and the donors of which beta cell area data was available (n=100) within age-at-diagnosis (< 7, 7-12, ≥ 13 years) and diabetes duration (< 1,1-5,5-10, ≥ 10 years) groups.

Duration (years)	Age-at-diagnosis (years)	Total number of donors, N=235 (N)	Number of donors with islets containing insulin+ beta cells, n=120 (N(%))	Number of donors with islets containing insulin+ beta cells and beta cell area data, n=100 (N)	Beta cell area, n=100 (Median % [IQR])
<1	<7	26	23 (88%)	22	15 [6.7,27]
<1	7-12	33	32 (97%)	27	21 [11,38]
<1	≥13	25	22 (88%)	17	31 [15,42]
1-5	<7	12	1 (8.3%)	1	2.0 [2.0,2.0]
1-5	7-12	13	7 (54%)	6	12 [7.5,25]
1-5	≥13	8	7 (88%)	6	14 [5.9,17]
5-10	<7	14	3 (21%)	3	5.3 [3.7,15]
5-10	7-12	17	7 (41%)	4	20 [14.5,26]
5-10	≥13	14	9 (64%)	7	4.6 [2.4,20]
≥10	<7	34	3(8.8%)	1	53 [53,53]
≥10	7-12	26	4 (15%)	4	5.6 [3.1,9.3]
≥10	≥13	13	2 (15%)	2	26 [13,38]

ESM Table 4 C-peptide in entire GRID cohort (N=4079) by age-at-diagnosis (< 7, 7-12, ≥ 13 years) and diabetes duration (< 1,1-5,5-10, ≥ 10 years).

Age-at-diagnosis, years (N)	<7 (1666)				7-12 (1887)				≥13 (526)			
Duration, years (N)	<1 (20)	1-5 (522)	5-10 (635)	≥10 (489)	<1 (110)	1-5 (995)	5-10 (533)	≥10 (249)	<1 (61)	1-5 (289)	5-10 (69)	≥10 (107)
C-peptide (pmol/l), Median [IQR]	54 [29-111]	<9* [<9*-21]	<9* [<9*-<9*]	<9* [<9*-<9*]	156 [65-233]	24 [<9*-88]	<9* [<9*-<9*]	<9* [<9*-<9*]	189 [102-282]	79 [14-209]	<9* [<9*-41]	<9* [<9*-<9*]

*Limit of detection

ESM Table 5 Two by two table of C-peptide detectability and presence of insulin+ beta cells, as determined by beta cell area positivity, in a subset of nPOD donors diagnosed <18 years without renal disease/failure, analysed by the HALO image analysis platform (n=87), (81.6% agreement, $p=1.5 \times 10^{-6}$).

	Beta cell area >0%	Beta cell area of 0%
Detectable C-peptide (≥16.4pmol/L)	13	4
Un-detectable C-peptide (<16.4pmol/L)	12	58

ESM Table 6 Characteristics, including admission course, of nPOD donors identified as having detectable C-peptide and 0% islets containing insulin+ beta cells (n=4). Insulin (Ins) and Glucagon (Gluc) have been abbreviated.

Study Number	Donor Type	Sex	BMI (Kg/m^2)	Age (years)	Duration of diabetes (years)	Age-at-diagnosis (years)	Islets containing insulin+ beta cells (%)	C-peptide (pmol/l)	Transport Duration (Minutes)	nPOD Histopathology Notes
6074	T1D	F	19.5	73	66	7	0	70	NA	Ins-/Gluc+ islets, numerous. Occ. insulin+ cell in acinar regions or within 1 islet. Few CD3+ cells in acinar and parenchyma regions. Moderate arteriosclerosis.
6145	T1D	M	23.1	18	11	7	0	20	849	Ins-/Gluc+ islets, atrophic. No infiltrates.
6244	T1D	M	23.8	34	28	6	0	16.7	981	Ins-/Gluc+ islets. Exocrine atrophy moderate. Low Ki67. IHC- some may be repeated due to background.
6268	T1D	F	26.6	13	3	9	0	16.7	1050	Ins+ (very rare)/Gluc+ islets, possibly reduced islet numbers but increased glucagon+ single cells. Insulitis present at insulin+

	and insulin- islets. Ki67+ cells moderate numbers in acinar region, also in occasional islet and duct. Moderate acinar atrophy with prominent nerve fibres.