

Supplementary information

Tailor-made generation of insulin-producing cells from canine mesenchymal stem cells derived from bone marrow and adipose tissue

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SUPPLEMENTARY TABLE

Supplementary Table S1 Primer sequences

Genes	Accession number	Sequences	5' 3'	Length (bp)	Tm (°C)
Stemness genes					
Zinc finger protein 42 (Zep42 or Rex1)	XM_003639567.1	Forward	AGGTTCTCACAGCAAGCTCA	199	59.24
		Reverse	CCAGCAAATTCTGCGCACTG		60.73
POU class 5 homeobox 1 (Pou5f1 or Oct4)	XM_538830.1	Forward	AGGAGAAGCTGGAGCAAAACC	100	60.55
		Reverse	GTGATCCTCTTCTGCTTCAGGA		59.50
Proliferation marker					
Proliferation marker protein Ki-67 (Ki67)	XM_014108788.1	Forward	GTGCAACTAAAGCACGGAGA	124	58.49
		Reverse	GAGATTCCTGTTTGCGTTTTCGT		58.49
Osteogenic markers					
Alkaline phosphatase (Alp)	NM_001197137.1	Forward	CCTGCCAGATAACTGCCTCT	168	59.16
		Reverse	GTGGAGACACCCATCCCATC		59.82
Runt-related transcription factor 2 (Runx2)	XM_005642335.1	Forward	GGAAGAGGCAAGAGTTTCACC	209	58.84
		Reverse	GTGCTCACTTGCCAACAGAA		58.89
Sp7 transcription factor (Spp or Osx)	XM_844688.3	Forward	GCGTCCTCCCTGCTTGAG	122	60.13
		Reverse	GCTTTGCCCAGTGTCGTTG		60.01
Secreted phosphoprotein 1 (Spp1 or Opn)	XM_003434024.2	Forward	GCCACAGAGCAAGGAAAACCTC	180	59.73
		Reverse	CTGCTTCTGAGATGGGTCAGG		60.13
Bone gamma-carboxyglutamate protein (Bglap or Ocn) ⁷⁸	XM_547536.4	Forward	GCCAGCCTATGGTCTCCTCTG	249	61.90
		Reverse	CCACCAGCTCCTTCTGTTCTCT		54.55
Collagen type I alpha 1 chain (Col1a1)	NM_001003090.1	Forward	CCAGCCGCAAAGAGTCTACAT	150	60.41
		Reverse	CTGTACGCAGGTGACTGGTG		60.67
Pancreatic markers					

Pancreatic endoderm marker					
Pancreatic and duodenal homeobox 1 (Pdx1)	NM_001284471.2	Forward	AAGTCTACCAAGGCTCACGC	201	60.04
		Reverse	GTGCCTCTCGGTCAAGTTCA		59.97
Pancreatic beta-cell or insulin-producing cells (IPCs) markers					
NK6 homeobox 1 (Nkx-6.1)	XM_544960.5	Forward	CAGGAGTTATGCAGAGCCCG	111	60.53
		Reverse	ACGTGGGTCTCGTGTGTTTT		60.11
ISL LIM homeobox 1 (Isl-1)	XM_848628.4,	Forward	TGGCTTACAGGCAAACCCAG	171	60.54
	XR_001315955.1	Reverse	GACATCGACGCCACTTCACT		60.39
V-maf avian musculoaponeurotic fibrosarcoma oncogene homolog A (Maf-A)	XM_003431814.3	Forward	GCTTCAGCAAGGAGGAGGTC	136	60.39
		Reverse	CTCTGGAGCTGGCACTTCTC		60.11
Solute carrier family 2 (facilitated glucose transporter), member 2 (Slc2a2 or Glut-2)	XM_545289.5	Forward	ACTCATCACAGGACGTGGAG	108	59.11
		Reverse	AGCTGAGTGTAGCGGTGAAG		59.76
Insulin (Ins or Insulin)	NM_001130093.1	Forward	TGGTAGAGGCTCTGTACCTGG	235	60.34
		Reverse	CGCCCCTAGTTGCAGTAATTC		59.06
Pancreatic-relating markers					
Glucagon (Gcg or Glucagon)	NM_001003044.1	Forward	TCCAATCGCGGTGTCAGAAG	197	60.39
		Reverse	ACCCTGAGAATGACGCTTGT		59.31
Glucagon-like peptide 1 receptor (Glp1r)	XM_014118246.1	Forward	CACGGTGGGCTATACTCTC	116	59.93
		Reverse	AGGACGCAAACAGGTTTCAGG		60.54
Notch targeted genes					
Hes Family BHLH Transcription Factor 1 (Hes-1)	XM_025478075.1	Forward	GAGAAGGCGGACATTCTGGA	137	59.46
		Reverse	ACCTCGTTCATACACTCGCTG		60.14
Hes Related Family BHLH Transcription Factor with YRPW Motif 1 (Hey-1)	NM_001002953.1	Forward	ACCTGAAAATGCTGCACACG	195	59.69
		Reverse	GCTGGGAGGCGTAGTTGTTA		59.75

Reference gene					
<i>Glyceraldehyde 3-phosphate dehydrogenase (Gapdh)</i>	NM_001003142.1	Forward	CCAACTGCTTGGCTCCTCTA	100	59.38
		Reverse	GTCTTCTGGGTGGCAGTGAT		59.67