

1 **Supplementary Information**2 **Table 1 – Primers qPCR blood vessels**

Gene	Ref Seq #	Assay ID	Forward primer	Reverse primer
PECAM1	NM_008816(2)	Mm.PT.58.43167370	PrimeTime®qPCR primers Exon Location 7-8	
CDH5	NM_009868(1)	Mm.PT.58.8747496	PrimeTime®qPCR primers Exon Location 7-8	
FGF2	NM_008006(1)	Mm.PT.56a.5129235	PrimeTime®qPCR primers Exon Location 1-3	
ANGPT2	NM_007426(1)	Mm.PT.58.29139310	PrimeTime®qPCR primers Exon Location 1a-2	
VEGFA	NM_009505(3)	Mm.PT.58.14200306	PrimeTime®qPCR primers Exon Location 1-2	
CLDN1	NM_016674(1)	Mm.PT.58.41579102	PrimeTime®qPCR primers Exon Location 2-3	
CLDN3	NM_009902(1)	Mm.PT.58.43310459.g	PrimeTime®qPCR primers Exon Location 1-1	
CLDN5	NM_013805(1)		5'-TTTCTTCTATGCGCAGTTGG-3'	5'-GCAGTTTGGTGCTACTTCA-3'
CLDN12	NM_001193659(3)	Mm.PT.58.41535303	PrimeTime®qPCR primers Exon Location 3a-5	
TJP1	NM_001163574(2)	Mm.PT.58.29459730	PrimeTime®qPCR primers Exon Location 18-19	
TJP2	NM_001198985(2)	Mm.PT.58.16834535	PrimeTime®qPCR primers Exon Location 22-23	
TJP3	NM_013769(1)	Mm.PT.58.43961106	PrimeTime®qPCR primers Exon Location 15-17	
OCLN	NM_008756(1)	Mm.PT.58.42749240	PrimeTime®qPCR primers Exon Location 7-9	
MARVELD2	NM_001038602(2)	Mm.PT.58.7719303	PrimeTime®qPCR primers Exon Location 5-7	
MFSD2A	NM_029662(1)	Mm.PT.58.32675283	PrimeTime®qPCR primers Exon Location 13-14	
NTN1	NM_008744(1)	Mm.PT.58.41162316	PrimeTime®qPCR primers Exon Location 3-4	
IL1 β	NM_008361(1)	Mm.PT.58.41616450	PrimeTime®qPCR primers Exon Location 3-4	
IL6	NM_031168(1)	Mm.PT.58.10005566	PrimeTime®qPCR primers Exon Location 4-5	
TNF α	NM_013693(1)	Mm.PT.58.12575861	PrimeTime®qPCR primers Exon Location 2-4	
CXCL1	NM_008176(1)	Mm.PT.58.42076891	PrimeTime®qPCR primers Exon Location 2-4	
CXCL12	NM_013655(3)	Mm.PT.58.8366748	PrimeTime®qPCR primers Exon Location 1-2	
CCL2	NM_011333(1)	Mm.PT.58.42151692	PrimeTime®qPCR primers Exon Location 1-3	
CCL3	NM_011337(1)	Mm.PT.58.29283216	PrimeTime®qPCR primers Exon Location 1-2	
CCR2	NM_009915(1)	Mm.PT.58.14116710	PrimeTime®qPCR primers Exon Location 1-3	
GAPDH	NM_008084(1)	Mm.PT.39a.1	PrimeTime®qPCR primers Exon Location 2-3	

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4 **Table 2 – Complete demographic for human cohorts**5 *Montreal cohort*

Gender	Age	Post mortem interval	Cause of death	Depressive symptoms	History of abuse	Antidepressant treatment	Alcohol	Drugs of abuse
M	47	12	Natural	No	No	No	No	No
M	41	24	Natural	No	No	No	No	No
M	30	30	Accident	No	No	No	No	No
M	19	27.75	Suicide	No	N/A	No	No	No
M	46	19.5	Natural	No	No	No	No	No
M	32	29.5	Accident	No	N/A	No	No	No
M	33	18	Suicide	No	Yes	No	No	No
M	42	63	Accident	No	N/A	No	No	No
M	55	24	Accident	No	Yes	No	No	No
M	46	59	Suicide	No	N/A	No	No	No
M	52	10	Natural	No	N/A	No	No	No
M	29	4	Suicide	No	N/A	No	No	No
M	59	23.5	Accident	No	N/A	No	No	No
F	66	61	Accident	No	N/A	No	Yes	No

F	72	17	Natural	No	No	No	No	No
F	45	44	Suicide	No	Yes	Yes	No	No
F	81	13.5	Natural	No	N/A	No	No	No
F	78	7.5	Accident	No	Yes	No	Yes	No
F	76	7	Accident	No	No	Yes	No	No
F	68	8.5	Natural	No	N/A	No	No	No
M	49	2.5	Suicide	Yes	No	No	No	No
M	53	33.5	Suicide	Yes	Yes	No	No	No
M	38	30	Suicide	Yes	N/A	No	No	No
M	28	36	Suicide	Yes	N/A	No	No	No
M	29	27	Suicide	Yes	No	No	No	No
M	68	43	Suicide	Yes	N/A	No	No	No
M	63	50	Suicide	Yes	N/A	No	No	No
M	48	49	Suicide	Yes	No	No	No	No
M	67	56	Suicide	Yes	N/A	No	No	No
M	52	29	Suicide	Yes	N/A	No	No	No
M	53	14	Suicide	Yes	N/A	No	No	No
M	51	54	Suicide	Yes	N/A	No	No	No
M	39	25.5	Suicide	Yes	N/A	No	No	No
M	49	32	Suicide	Yes	N/A	No	No	No
M	40	22	Suicide	Yes	N/A	No	No	No
F	25	20	Suicide	Yes	N/A	No	No	No
F	55	36	Suicide	Yes	No	No	No	No
F	25	56	Suicide	Yes	N/A	No	No	No
F	32	41	Suicide	Yes	N/A	No	No	No
F	55	2.5	Suicide	Yes	Yes	No	No	No
F	44	60	Suicide	Yes	N/A	No	No	No
M	42	21	Suicide	Yes	Yes	Yes	No	No
M	48	21.5	Suicide	Yes	N/A	Yes	No	No
M	22	24	Suicide	Yes	Yes	Yes	No	No
M	53	41	Suicide	Yes	No	Yes	No	No
M	36	36.5	Suicide	Yes	N/A	Yes	No	No
M	63	24	Suicide	Yes	N/A	Yes	No	No
M	35	31	Suicide	Yes	N/A	Yes	No	No
M	47	2.5	Suicide	Yes	N/A	Yes	No	No
F	46	15	Suicide	Yes	N/A	Yes	Yes	No
F	40	49.5	Suicide	Yes	N/A	Yes	No	No
F	54	28.5	Suicide	Yes	Yes	Yes	No	No
F	49	14.5	Suicide	Yes	N/A	Yes	No	No
F	36	7.5	Suicide	Yes	No	Yes	No	No
F	55	36	Suicide	Yes	N/A	Yes	No	No
F	59	3	Suicide	Yes	No	Yes	No	No

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Texas cohort

Gender	Age	Post mortem interval	Cause of death
M	31	16	Hypertensive cardiovascular disease
M	63	14	Acute myocardial infarction
M	19	20	Gunshot wound
M	48	15	Mitral valve regurgitation

M	20	21	Blunt force injury
M	60	20	Surgical complication
M	43	15	Hypertensive cardiovascular disease
M	60	11	Hypertensive cardiovascular disease
M	63	12	Acute myocardial infection
M	34	23	Artherosclerotic cardiovascular disease
M	48	20	Artherosclerotic cardiovascular disease
M	54	11.4	Hypertensive cardiovascular disease
M	77	13.4	Pancreatic cancer
M	60	27	Acute myocardial infarction

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Gender	Age	Post mortem interval	Antidepressant treatment	Cause of death
M	25	21	No	Suicide
M	42	17	No	Suicide
M	24	18	No	Suicide
M	18	22	No	Suicide
M	61	19	No	Suicide

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Gender	Age	Post mortem interval	Antidepressant treatment	Cause of death
M	33	18	Yes	Suicide
M	40	18	Yes	Suicide
M	35	9	Yes	Suicide
M	61	20	Yes	Suicide
M	50	23	Yes	Suicide
M	65	14	Yes	Hypertensive cardiovascular disease

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11 Table 3 – Human qPCR primers

Gene	Ref Seq #	Assay ID	Primers
CLDN5	NM_003277(2)	Hs.PT.58.1483777.g	PrimeTime®qPCR primers Exon Location 1-1
GAPDH	NM_002046(1)	Hs.PT.39a.22214836	PrimeTime®qPCR primers Exon Location 2-3

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13 Table 4 – Primers qPCR viruses validation

Gene	Ref Seq #	Assay ID	Forward primer	Reverse primer
CLDN1	NM_016674(1)	Mm.PT.58.41579102	PrimeTime®qPCR primers Exon Location 2-3	
CLDN3	NM_009902(1)	Mm.PT.58.43310459.g	PrimeTime®qPCR primers Exon Location 1-1	
CLDN5	NM_013805(1)		5'-TTTCTTCTATGCGCAGTTGG-3'	5'-GCAGTTTGGTGCTACTTCA-3'
CLDN12	NM_001193659(3)	Mm.PT.58.41535303	PrimeTime®qPCR primers Exon Location 3a-5	
PECAM1	NM_008816(2)	Mm.PT.58.43167370	PrimeTime®qPCR primers Exon Location 7-8	
PDGFRβ	NM_001146268(2)	Mm.PT.56a.5869521	PrimeTime®qPCR primers Exon Location 23-24	
GFAP	NM_001131020(2)	Mm.PT.58.6609337	PrimeTime®qPCR primers Exon Location 6-7	
S100β	NM_009115(1)	Mm.PT.58.30112765	PrimeTime®qPCR primers Exon Location 2-3	
RAC1	NM_009007(1)	Mm.PT.58.8517513	PrimeTime®qPCR primers Exon Location 1-2	
GAPDH	NM_008084(1)	Mm.PT.39a.1	PrimeTime®qPCR primers Exon Location 2-3	

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