

Supplemental Material ESM_14

ESM_14_1. List of demographical, clinical and biochemical characteristics of the included postmortem human subjects

Subject	Diagnosis	Age	PMI (h)	Agonal factor score	Brain pH	RIN
2292	Control	55	18.00	0	6.83	6.6
2861	Control	60	24.00	0	6.99	6.7
2311	Bipolar	23	9.00	0	7.12	7.4
3927	Bipolar	36	25.50	0	6.69	7.05

ESM_14_2. Probe sequences

Probe sequences (5' to 3', designed in our lab) for the target mRNAs whose expression has been shown in the current study, are listed below.

1. Split-initiator probes for Figures 1, 2, 3c, 8, ESM_13_1 and ESM_13_5

Organism: Mouse (*Mus musculus*); Target mRNA: **Somatostatin (Sst)**; HCR amplifier: B3-AlexaFluor647, B3-AlexaFluor594

Odd #	1st half of Initiator I1 + Spacer	Probe Sequence	Even #	Probe Sequence	Spacer + 2nd half of Initiator I1
1	gTCCCTgCCTCTATATCTTT	TTCGGTAGCGTCTCCTTCAGCCGCT	2	CGCAGGTCCTCAGGCAGCAGCGACG	TTCCAACCTTTAACCg
3	gTCCCTgCCTCTATATCTTT	CTGGAGCGCGGTGGGTCACTAGT	4	GTCATCTTCCTTGCCTCAGGCAGCCA	TTCCAACCTTTAACCg
5	gTCCCTgCCTCTATATCTTT	AGGGCGCACTGGAGACGGCAGGACA	6	AAAGCCAGGACGATGCAGAGCGCAG	TTCCAACCTTTAACCg
7	gTCCCTgCCTCTATATCTTT	TCCCGGTGGCAGCCGCCAGAGACTT	8	CCAAGAAGTACTTGGCCAGTTCCTG	TTCCAACCTTTAACCg
9	gTCCCTgCCTCTATATCTTT	TGGTTGGGCTCGGACAGCAGCTCTG	10	TCGGGCTCCAGGGCATCATTCTCTG	TTCCAACCTTTAACCg
11	gTCCCTgCCTCTATATCTTT	GTGAATGTCTCCAGAAGAAGTTCT	12	GGACAACAATATTAAGCTAACAGG	TTCCAACCTTTAACCg

2. Split-initiator probes for Figure 5

Organism: Mouse (*Mus musculus*); Target mRNA: **solute carrier family 17 member 7 (*Slc17a7/Vglut1*)**; HCR amplifier: B3-AlexaFluor647

Odd #	1st half of Initiator I1 + Spacer	Probe Sequence	Even #	Probe Sequence	Spacer + 2nd half of Initiator I1
1	gTCCCTgCCTCTATATCTTT	ACTGCCCCACAGTGGGAGGCCCGTG	2	GAGGTGTATGGAGTGGAAGTCCTGG	TTCCACTCAACTTTAACCCg
3	gTCCCTgCCTCTATATCTTT	TGGGAACAAGGGAGGACTTGCATCT	4	AGGGAAAGAGGGCTGGTCGGACAGC	TTCCACTCAACTTTAACCCg
5	gTCCCTgCCTCTATATCTTT	TCACCCCCGCAGGAGGCCAGTTGAG	6	TATCCTTGAACTGCTAGTGTGCAG	TTCCACTCAACTTTAACCCg
7	gTCCCTgCCTCTATATCTTT	TTAGGCGAGCCTTGAACTAATAGA	8	AACCAGCTTGAAAAATGTAGAATT	TTCCACTCAACTTTAACCCg
9	gTCCCTgCCTCTATATCTTT	AACGGCGGCATTGGTGGTTAGGTTA	10	GAAACGCTGGTGAGAATCAGTCTGT	TTCCACTCAACTTTAACCCg
11	gTCCCTgCCTCTATATCTTT	GCCCGGCAAAGTGTGCTGGTGAGGG	12	CAATGATTGTACTAAGCTAAGGTCA	TTCCACTCAACTTTAACCCg
13	gTCCCTgCCTCTATATCTTT	AGCCACTACTGAGACCTGAAAAGT	14	CGAGCCGCTGAATTAATAGCTTTGG	TTCCACTCAACTTTAACCCg
15	gTCCCTgCCTCTATATCTTT	GACACACAACAAATGGCCACTGAGA	16	AGATTTGGAATCATTTAGCCCCTGA	TTCCACTCAACTTTAACCCg
17	gTCCCTgCCTCTATATCTTT	TGTAACTTCTCTCACACACCTCACC	18	CCAGCCCCGCTCCCTTCTCTGGGAT	TTCCACTCAACTTTAACCCg
19	gTCCCTgCCTCTATATCTTT	CTGCCCCAGGAACAACCTCTCCTC	20	CACAGAGACAGACACCAAGACACGA	TTCCACTCAACTTTAACCCg

3. Split-initiator probes for Figure ESM_13_1

Organism: Mouse (*Mus musculus*); Target mRNA: **glutamate decarboxylase 1 (*Gad 67/Gad 1*)**; HCR amplifier: B2-AlexaFluor488

Odd #	1st half of Initiator I1 + Spacer	Probe Sequence	Even #	Probe Sequence	Spacer + 2nd half of Initiator I1
1	CCTCgTAAATCCTCATCAAA	TATAAATAAGCAGATATCTCACTGA	2	GTCTCTTTAACATGGTATATATTTG	AAATCATCCAgTAAACCgCC
3	CCTCgTAAATCCTCATCAAA	TACAAATGGGAAGAAAATACAAGAT	4	CTCCATTAATATATAAATAAGATAC	AAATCATCCAgTAAACCgCC
5	CCTCgTAAATCCTCATCAAA	TACCATAAACAGTATCCAGAACTTA	6	TCTCTTTGGCTCACAAATGCACGAA	AAATCATCCAgTAAACCgCC
7	CCTCgTAAATCCTCATCAAA	GCAAATCTCACTAATTTTTCATCTTT	8	TTATGTAAAGGGCACTCTAATATAA	AAATCATCCAgTAAACCgCC
9	CCTCgTAAATCCTCATCAAA	AGACAGTACACATATGTTCAAATCA	10	CTATGTACAGTATCAGAATTTCTTTT	AAATCATCCAgTAAACCgCC
11	CCTCgTAAATCCTCATCAAA	GAGAACATCTGACATACAGCCTGAG	12	TTATTCAACAGTTACTAGAAAAGCT	AAATCATCCAgTAAACCgCC
13	CCTCgTAAATCCTCATCAAA	AAAATTACAGGAGATCTAGTTATTA	14	TCACAGAGATTGGTCATATACTACT	AAATCATCCAgTAAACCgCC
15	CCTCgTAAATCCTCATCAAA	TTGCCTTAGGTTTCAGCTAAGCGAG	16	TCAGTGTATCGGAGGTCTTCAGAAA	AAATCATCCAgTAAACCgCC
17	CCTCgTAAATCCTCATCAAA	TCTTCAAAAACACTTGTGGGACTGG	18	CCCTAAATGCACAGTGTGGGTTTCA	AAATCATCCAgTAAACCgCC
19	CCTCgTAAATCCTCATCAAA	ATTTTATTTATATTCTTCTTGACACA	20	TTTTTTTTTTCATGGAGAATATTTT	AAATCATCCAgTAAACCgCC

4. Split-initiator probes for Figure ESM_13_1

Organism: Mouse (*Mus musculus*); Target mRNA: **glutamate decarboxylase 2 (*Gad 65/Gad 2*)**; HCR amplifier: B2-AlexaFluor488

Odd #	1st half of Initiator I1 + Spacer	Probe Sequence	Even #	Probe Sequence	Spacer + 2nd half of Initiator I1
1	CCTCgTAAATCCTCATCAAA	AGGGTAGAAGAGAGGGCAAGGACAGG	2	CACAGCTTGGGACTGGGTGAAAGGG	AAATCATCCAgTAAACCgCC
3	CCTCgTAAATCCTCATCAAA	TCTCTAAGAGCCAATGGAGAGGGCA	4	GGGTGGGACTTAGTTGAGGTTATGT	AAATCATCCAgTAAACCgCC
5	CCTCgTAAATCCTCATCAAA	ACACAGTTGTCAAAGAGATTCTTA	6	CAGAGATGAAGCATTGTGTGCCA	AAATCATCCAgTAAACCgCC
7	CCTCgTAAATCCTCATCAAA	GCTCCATAATTGGTTTCTCTGGCCT	8	ATACCTGCACTGTCAGCAGCCTGTG	AAATCATCCAgTAAACCgCC
9	CCTCgTAAATCCTCATCAAA	CCTTCTCCAAGACCTGTAGAGTCA	10	CCTTTGTCCATGTTCTGAGGAGCAG	AAATCATCCAgTAAACCgCC
11	CCTCgTAAATCCTCATCAAA	TGTTACTATATTACACCTGTGCAT	12	TGGTTTGATGTTTTGCTTCTTTGT	AAATCATCCAgTAAACCgCC
13	CCTCgTAAATCCTCATCAAA	AGAAAAGCACGTGCAAGATGATACC	14	CAGTGTTCGATTTAGCACTTGAAA	AAATCATCCAgTAAACCgCC
15	CCTCgTAAATCCTCATCAAA	TTGCATACACAATAATTAATACA	16	TCAGAAACACCATTTGGCAACAAGA	AAATCATCCAgTAAACCgCC
17	CCTCgTAAATCCTCATCAAA	AGGTTGCCACATTTGTTTTATTTT	18	CATACACAAGTTTATATTTGGTAGC	AAATCATCCAgTAAACCgCC
19	CCTCgTAAATCCTCATCAAA	GAAAACACAGGTAAAATACTTTGAT	20	ATTTACACATTTATTTGGGTTAGA	AAATCATCCAgTAAACCgCC

5. Split-initiator probes for Figures 3a, 3b, 7a, and 7b

Organism: Rat (*Rattus norvegicus*); Target mRNA: **Somatostatin (*Sst*)**; HCR amplifier: B3-AlexaFluor647

Odd #	1st half of Initiator I1 + Spacer	Probe Sequence	Even #	Probe Sequence	Spacer + 2nd half of Initiator I1
1	gTCCCTgCCTCTATATCTTT	AGCATCTCCCCTGCCTCAGACAGCC	2	GCCAGCGCGCACTGGAGACGGCAGG	TTCCACTCAACTTTAACCCg
3	gTCCCTgCCTCTATATCTTT	CAAAGCCAGGACGATGCAGAGCGCG	4	GTCCGAGGGCGCCCCGGTGACACCG	TTCCACTCAACTTTAACCCg
5	gTCCCTgCCTCTATATCTTT	TCTGCAGAAACTGACGGAGTCTGGG	6	GTTTCCCGGTGGCAGCCGCCAGAGA	TTCCACTCAACTTTAACCCg
7	gTCCCTgCCTCTATATCTTT	GCCAAGAAGTACTTGGCCAGTTCCT	8	GTCTGGTTGGGCTCGGACAGCAGTT	TTCCACTCAACTTTAACCCg
9	gTCCCTgCCTCTATATCTTT	CTCAGGCTCCAGGCATCGTTCTCT	10	GTCCTGCTCAGCTGCCTGGGGCAA	TTCCACTCAACTTTAACCCg
11	gTCCCTgCCTCTATATCTTT	ACCTCTGCAGCTCCAGCCTCATCTC	12	GTGCCATGGCTGGGTTGAGTTGGC	TTCCACTCAACTTTAACCCg
13	gTCCCTgCCTCTATATCTTT	TTGCAGCCAGCTTTCGTTCCCGGG	14	GATGTGAATGTCTTCCAGAAGAAGT	TTCCACTCAACTTTAACCCg
15	gTCCCTgCCTCTATATCTTT	GAGACAACAATATTAAGCTAACAG	16	TGGAGGAGAGGGATCAGAGGTCTGG	TTCCACTCAACTTTAACCCg
17	gTCCCTgCCTCTATATCTTT	GGAGTTAAGGAAGAGATATGGGATT	18	CTAGTTGAGCATTGGGGGGGGGGC	TTCCACTCAACTTTAACCCg
19	gTCCCTgCCTCTATATCTTT	CAGTCTTCAATTTCTAACGCAGGGT	20	TTTCACCATAATTTTATTTTGTATT	TTCCACTCAACTTTAACCCg

6. Split-initiator probes for Figures 4a, 4b, 7e, and 7f

Organism: Rat (*Rattus norvegicus*); Target mRNA: **Parvalbumin (*Pvalb*)**; HCR amplifier: B1-AlexaFluor647

Odd #	1st half of Initiator I1 + Spacer	Probe Sequence	Even #	Probe Sequence	Spacer + 2nd half of Initiator I1
1	gAggAgggCagCAAACggAA	CTTGATGTCCTCAGCGCTGAGCAAG	2	TGCAGCAGTAAAGGCTCCTATCGCC	TAgAAgAgTCTTCCTTTACg
3	gAggAgggCagCAAACggAA	AACACCTTCTTCACATCATCCGCAC	4	CCACTTTTGTCTTTGTCCAGAATGT	TAgAAgAgTCTTCCTTTACg
5	gAggAgggCagCAAACggAA	CCCCAGCTCATCTCCTCAATGAAG	6	ATCTGAGGAGAAGCCCTCAGAATG	TAgAAgAgTCTTCCTTTACg
7	gAggAgggCagCAAACggAA	TTTCCTTAGCAGACAAGTCTCTGGC	8	TGTCTCCAGCAGCCATCAGCGTCTT	TAgAAgAgTCTTCCTTTACg
9	gAggAgggCagCAAACggAA	ACCCAATCTTGCCATCCCCGTCCT	10	TCGGCCACCAGAGTGGAGAATTCTT	TAgAAgAgTCTTCCTTTACg
11	gAggAgggCagCAAACggAA	CCAAGCAGTCAGCGCCACTTAGCTT	12	GGCATGGGGGTGGAGAGGTGGGAG	TAgAAgAgTCTTCCTTTACg
13	gAggAgggCagCAAACggAA	AGGGCCGCGAGAAGGGCTGAGATGG	14	CATAAACAACTGAACAGAAACCCA	TAgAAgAgTCTTCCTTTACg
15	gAggAgggCagCAAACggAA	TAAAGGATGGGGGAGTAAAAAATAA	16	CAGAAGAGTGGTGCATTGAGGGC	TAgAAgAgTCTTCCTTTACg
17	gAggAgggCagCAAACggAA	TAAAGGATGGGGGAGTAAAAAATAA	18	CAGAAGAGTGGTGCATTGAGGGC	TAgAAgAgTCTTCCTTTACg

7. Split-initiator probes for Figures 4c, and 7c

Organism: Rat (*Rattus norvegicus*); Target mRNA: **Tyrosine hydroxylase (*Th*)**; HCR amplifier: B1-AlexaFluor647

Odd #	1st half of Initiator I1 + Spacer	Probe Sequence	Even #	Probe Sequence	Spacer + 2nd half of Initiator I1
1	gAggAgggCagCAAACggAA	GACAGCAGCCCTGCACCATAAGCCT	2	AGGGAGTGCAGGAGCTCTCCGTAGG	TAgAAgAgTCTTCCTTTACg
3	gAggAgggCagCAAACggAA	GGCTCGGACCTCAGGCTCCTCTGAC	4	CTGCACAGCTGCTGTGTCTGGGTCA	TAgAAgAgTCTTCCTTTACg
5	gAggAgggCagCAAACggAA	GCTGGTAGGTTTGATCTTGGTAGGG	6	TGAAGCTCTCGGACACAAAGTACAC	TAgAAgAgTCTTCCTTTACg
7	gAggAgggCagCAAACggAA	TTCCTGAGCTTGTCTTGGCGTCAT	8	AATGGGCGCTGGATACGAGAGGCAT	TAgAAgAgTCTTCCTTTACg
9	gAggAgggCagCAAACggAA	TGTGTACGGGTCAAACCTCACAGAG	10	AGGGCTGTCCAGTACGTCAATGGCC	TAgAAgAgTCTTCCTTTACg
11	gAggAgggCagCAAACggAA	CCTCCAAGGAGCGCTGGATGGTGTG	12	CCAGGGTGTGCAGCTCATCTGGAC	TAgAAgAgTCTTCCTTTACg
13	gAggAgggCagCAAACggAA	TAGCTAATGGCACTCAGTGCCTGGG	14	GCACCTGTGGGTGGTACCCTATGCA	TAgAAgAgTCTTCCTTTACg
15	gAggAgggCagCAAACggAA	GGTTGAGAAGCAGTGTGGGAGGAT	16	CCTGGAGTGCATGCAGTAGTAAGAC	TAgAAgAgTCTTCCTTTACg
17	gAggAgggCagCAAACggAA	GAGGGCAGGAGGAATGCAGGACCAC	18	AGAATAATCAGGGTAGTATAGAGCA	TAgAAgAgTCTTCCTTTACg
19	gAggAgggCagCAAACggAA	TAGATTCTTTCCTTCCTTTATTGAG	20	GGAGCTGTCTGGCCTCATACAGAG	TAgAAgAgTCTTCCTTTACg

8. Split-initiator probes for Figures 4d, 6d, ESM_13_6c, and ESM_13_6d

Organism: Rat (*Rattus norvegicus*); Target mRNA: **Dopamine hydroxylase (*Dbh*)**; HCR amplifier: B1-AlexaFluor647

Odd #	1st half of Initiator I1 + Spacer	Probe Sequence	Even #	Probe Sequence	Spacer + 2nd half of Initiator I1
1	gAggAgggCAgCAAACggAA	GGCACTCTGCAGAGCTCCAGCTCT	2	GTATTTCTGCAGGAAGCCATCATCC	TAgAAgAgTCTTCCTTTACg
3	gAggAgggCAgCAAACggAA	TGCCGAACCGGTTTACTATGTGGAA	4	CCTGAGGGCAGGTGCAGACCTCCTC	TAgAAgAgTCTTCCTTTACg
5	gAggAgggCAgCAAACggAA	ATAGTTATACAAAGCCTTGAGCATA	6	CTTGTTACAGTGCACAGAGATAGGG	TAgAAgAgTCTTCCTTTACg
7	gAggAgggCAgCAAACggAA	TACCCGGGAAGCGGACGGCAGAGGT	8	TCTTAGGCAGAGGCTGCAGGTTCCA	TAgAAgAgTCTTCCTTTACg
9	gAggAgggCAgCAAACggAA	AAAACGAGGAGAGGCTGAAGAACAA	10	CAGAGCTGGAGTGAGCCAGTAGGG	TAgAAgAgTCTTCCTTTACg
11	gAggAgggCAgCAAACggAA	GGTGTCTCCAAGGTGATACCCCTC	12	TCAGACCTCATGGATGCAGCCGTG	TAgAAgAgTCTTCCTTTACg
13	gAggAgggCAgCAAACggAA	TGATGTCCAGAGCTGCTCTGTCCAG	14	GTTGTCCCTCTGTGGAGCCAGCAGT	TAgAAgAgTCTTCCTTTACg
15	gAggAgggCAgCAAACggAA	AGTTGAATCTGGACTCCACATTGA	16	GTTCTGGAGGCAAGGGAGGTCCTGT	TAgAAgAgTCTTCCTTTACg
17	gAggAgggCAgCAAACggAA	AGTCTGCACCCAGCCTGGTAAGGCT	18	ACAGGGTCAGGACTGTGAGGCTTGG	TAgAAgAgTCTTCCTTTACg
19	gAggAgggCAgCAAACggAA	CAACACAAGTTACCACCAGAGGCCA	20	TTTAAACAGTGTTGCATGGCATAc	TAgAAgAgTCTTCCTTTACg

9. Split-initiator probes for Figure 6b

Organism: Rat (*Rattus norvegicus*); Target mRNA: **Dopamine hydroxylase (*Dbh*)**; HCR amplifier: B2-AlexaFluor488

Odd #	1st half of Initiator I1 + Spacer	Probe Sequence	Even #	Probe Sequence	Spacer + 2nd half of Initiator I1
1	CCTCgTAAATCCTCATCAAA	GGCACTCTGCAGAGCTCCAGCTCT	2	GTATTTCTGCAGGAAGCCATCATCC	AAATCATCCAgTAAACCgCC
3	CCTCgTAAATCCTCATCAAA	TGCCGAACCGGTTTACTATGTGGAA	4	CCTGAGGGCAGGTGCAGACCTCCTC	AAATCATCCAgTAAACCgCC
5	CCTCgTAAATCCTCATCAAA	ATAGTTATACAAAGCCTTGAGCATA	6	CTTGTTACAGTGCACAGAGATAGGG	AAATCATCCAgTAAACCgCC
7	CCTCgTAAATCCTCATCAAA	TACCCGGGAAGCGGACGGCAGAGGT	8	TCTTAGGCAGAGGCTGCAGGTTCCA	AAATCATCCAgTAAACCgCC
9	CCTCgTAAATCCTCATCAAA	AAAACGAGGAGAGGCTGAAGAACAA	10	CAGAGCTGGAGTGAGCCAGTAGGG	AAATCATCCAgTAAACCgCC
11	CCTCgTAAATCCTCATCAAA	GGTGTCTCCAAGGTGATACCCCTC	12	TCAGACCTCATGGATGCAGCCGTG	AAATCATCCAgTAAACCgCC
13	CCTCgTAAATCCTCATCAAA	TGATGTCCAGAGCTGCTCTGTCCAG	14	GTTGTCCCTCTGTGGAGCCAGCAGT	AAATCATCCAgTAAACCgCC
15	CCTCgTAAATCCTCATCAAA	AGTTGAATCTGGACTCCACATTGA	16	GTTCTGGAGGCAAGGGAGGTCCTGT	AAATCATCCAgTAAACCgCC
17	CCTCgTAAATCCTCATCAAA	AGTCTGCACCCAGCCTGGTAAGGCT	18	ACAGGGTCAGGACTGTGAGGCTTGG	AAATCATCCAgTAAACCgCC
19	CCTCgTAAATCCTCATCAAA	CAACACAAGTTACCACCAGAGGCCA	20	TTTAAACAGTGTTGCATGGCATAc	AAATCATCCAgTAAACCgCC

10. Split-initiator probes for Figure 6c

Organism: Rat (*Rattus norvegicus*); Target mRNA: **Dopamine hydroxylase (*Dbh*)**; HCR amplifier: B3-AlexaFluor594

Odd #	1st half of Initiator I1 + Spacer	Probe Sequence	Even #	Probe Sequence	Spacer + 2nd half of Initiator I1
1	gTCCCTgCCTCTATATCTTT	GGCACTCTTGAGAGCTCCAGCTCT	2	GTATTTCTGCAGGAAGCCATCATCC	TTCCAACACTTTAACCg
3	gTCCCTgCCTCTATATCTTT	TGCCGAACCGTTTACTATGTGGAA	4	CCTGAGGGCAGGTGCAGACCTCCTC	TTCCAACACTTTAACCg
5	gTCCCTgCCTCTATATCTTT	ATAGTTATACAAAGCCTTGAGCATA	6	CTTGTTACAGTGCACAGAGATAGGG	TTCCAACACTTTAACCg
7	gTCCCTgCCTCTATATCTTT	TACCCGGGAAGCGGACGGCAGAGGT	8	TCTTAGGCAGAGGCTGCAGGTTCCA	TTCCAACACTTTAACCg
9	gTCCCTgCCTCTATATCTTT	AAAACGAGGAGAGGCTGAAGAACAA	10	CAGAGCTGGAGTGAGCCAGTAGGG	TTCCAACACTTTAACCg
11	gTCCCTgCCTCTATATCTTT	GGTGTCTCCAAGGTGATACCCCTC	12	TCAGACCTCATGGATGCAGCCGTG	TTCCAACACTTTAACCg
13	gTCCCTgCCTCTATATCTTT	TGATGTCCAGAGCTGCTCTGCCAG	14	GTTGTCCCTCTGTGGAGCCAGCAGT	TTCCAACACTTTAACCg
15	gTCCCTgCCTCTATATCTTT	AGTTGAATCTGGACTCCACATTGA	16	GTTCTGGAGGCAAGGGAGGTCCTGT	TTCCAACACTTTAACCg
17	gTCCCTgCCTCTATATCTTT	AGTCTGCACCCAGCCTGGTAAGGCT	18	ACAGGGTCAGGACTGTGAGGCTTGG	TTCCAACACTTTAACCg
19	gTCCCTgCCTCTATATCTTT	CAACACAAGTTACCACCAGAGGCCA	20	TTTAAACAGTGTTGTCATGGCATAAC	TTCCAACACTTTAACCg

11. Split-initiator probes for Figures 7d

Organism: Rat (*Rattus norvegicus*); Target mRNA: **solute carrier family 6 member 3 (*Slc6a3/Dat*)**; HCR amplifier: B3-AlexaFluor594

Odd #	1st half of Initiator I1 + Spacer	Probe Sequence	Even #	Probe Sequence	Spacer + 2nd half of Initiator I1
1	gTCCCTgCCTCTATATCTTT	GCTGGAACATCATCGACGAGCCAGT	2	TGAAGAGCTCTCGATGCCGATGTAG	TTCCAACACTTTAACCg
3	gTCCCTgCCTCTATATCTTT	AAAGTAGCCAGGACAATGCCAAGAG	4	TTGGTGACGCAGAAGAGAGACAGCA	TTCCAACACTTTAACCg
5	gTCCCTgCCTCTATATCTTT	CAGTGTGAAGACGTAGATGCCACCG	6	AGATGTGCCAGCTGCAAAGTGGTCC	TTCCAACACTTTAACCg
7	gTCCCTgCCTCTATATCTTT	CTTCAATGAGCACGCCAAAGAGGAT	8	CGCCGTAGAACCAGGCCACCCAAT	TTCCAACACTTTAACCg
9	gTCCCTgCCTCTATATCTTT	TTGATGTCATCACTGAATTGCTGGA	10	AGGTTGGGTGCTGCCCCTGCATTT	TTCCAACACTTTAACCg
11	gTCCCTgCCTCTATATCTTT	CCCAGGGCATTGGCCAGTCTGGGA	12	GCCATGGAGGATGTGGCGATGATCC	TTCCAACACTTTAACCg
13	gTCCCTgCCTCTATATCTTT	GTAGTGCATATAAATGGGCACCATG	14	GAAGGACCCCGGCAGGCTGCAGAAC	TTCCAACACTTTAACCg
15	gTCCCTgCCTCTATATCTTT	TGATGGCATAGGCCAGTTTCTCCCG	16	CCACTAGCTGATGGTCTTTCTCAGG	TTCCAACACTTTAACCg
17	gTCCCTgCCTCTATATCTTT	GTGAATTGGCGCACCTCCCCTCTGT	18	CTTTACAGCAACAGCCAGTGACGCA	TTCCAACACTTTAACCg
19	gTCCCTgCCTCTATATCTTT	CCCAGCTGGCAGCTGTCTCCTTCCA	20	ACACGCCTGATTCTTCATGTGAGGT	TTCCAACACTTTAACCg

12. Split-initiator probes for Figures 4e

Organism: Human (*Homo sapiens*); Target mRNA: **calbindin-1 (CALB)**; HCR amplifier: B3-AlexaFluor647

Odd #	1st half of Initiator I1 + Spacer	Probe Sequence	Even #	Probe Sequence	Spacer + 2nd half of Initiator I1
1	gTCCCTgCCTCTATATCTTT	TGAGTATTTTAGATGGAAAAGCACA	2	ATAAAGCCACAATTA ACTATATTTT	TTCCACTCAACTTTA ACCCg
3	gTCCCTgCCTCTATATCTTT	AATCTGTAATGAGACTGTAACTTC	4	GTAGACATGCTGTTGATTGGTAAAC	TTCCACTCAACTTTA ACCCg
5	gTCCCTgCCTCTATATCTTT	CGATAGTTTTGTATGGATCCAAGCA	6	CCCTTCCCTTGT CACATCAACTTGA	TTCCACTCAACTTTA ACCCg
7	gTCCCTgCCTCTATATCTTT	ACAGATTTATGTGTCATCTGGTGCT	8	TTGTTGGAAATACAGGCATAGAATC	TTCCACTCAACTTTA ACCCg
9	gTCCCTgCCTCTATATCTTT	TAGGTCATATTCTCTGACAGTAAGT	10	ACATGAAAACAGTTTAGAAAATGGA	TTCCACTCAACTTTA ACCCg
11	gTCCCTgCCTCTATATCTTT	GCAGTTGACTAGAATAATTTGCAAC	12	AGATTACACAGAGTATGACATAAAA	TTCCACTCAACTTTA ACCCg
13	gTCCCTgCCTCTATATCTTT	TATGCAGTATATTAATTTAATCAG	14	AGGAAGTATGCAAAC TAGACACCAG	TTCCACTCAACTTTA ACCCg
15	gTCCCTgCCTCTATATCTTT	ACAGTTCTACATAGAAAGAAAATCC	16	GGCAGCAGATACCCTTGGTGGAAT	TTCCACTCAACTTTA ACCCg
17	gTCCCTgCCTCTATATCTTT	ATAGCTAGAAAAAATATTTTCAGA	18	AATTATGTAGTAAAAAATAGAGTTG	TTCCACTCAACTTTA ACCCg
19	gTCCCTgCCTCTATATCTTT	TGCTATGAATTTTACATTA AAAATTT	20	TGATGATATAACATTCAATAATCAG	TTCCACTCAACTTTA ACCCg

13. Split-initiator probes for Figures 4f, and ESM_13_4

Organism: Human (*Homo sapiens*); Target mRNA: **parvalbumin (PVALB)**; HCR amplifier: B2-AlexaFluor647

Odd #	1st half of Initiator I1 + Spacer	Probe Sequence	Even #	Probe Sequence	Spacer + 2nd half of Initiator I1
1	CCTCgTAAATCCTCATCAAA	TCCTGCAACTCGGGTGGGGTGGAG	2	CAGCGTTCAGCAAGTCTGTCATCGA	AAATCATCCAgTAAACCgCC
3	CCTCgTAAATCCTCATCAAA	GCTCCCACCGCCTTCTTGATGCCT	4	TGGTCGAAGGAGTCGGTAGCGCTAA	AAATCATCCAgTAAACCgCC
5	CCTCgTAAATCCTCATCAAA	GCCGACCATTTGGAAGAACTTTTTG	6	CACATCATCCGCACTTTTTTCTTC	AAATCATCCAgTAAACCgCC
7	CCTCgTAAATCCTCATCAAA	TGTCCAGCATGTGAAACACCTTCTT	8	CCTCCTCGATGAAGCACTTTTGTGTC	AAATCATCCAgTAAACCgCC
9	CCTCgTAAATCCTCATCAAA	CCTTTTAGGATGAATCCCAGCTCAT	10	GACAGGTCTCTGGCATCTGGGGAGA	AAATCATCCAgTAAACCgCC
11	CCTCgTAAATCCTCATCAAA	CATCAGCATCTTGGTTTCTTTAGCA	12	GCCGTCCCCTCTTTGTCTCCAGCA	AAATCATCCAgTAAACCgCC
13	CCTCgTAAATCCTCATCAAA	TGGAGAATTCGTCAACCCCAATTTT	14	GTGCTTCTTAGCTTT CAGCCACCAG	AAATCATCCAgTAAACCgCC
15	CCTCgTAAATCCTCATCAAA	AGAGGTGGAAGACCAGGGGCAGTCA	16	GGGGCCGAGATTGGGTGTT CAGGGC	AAATCATCCAgTAAACCgCC
17	CCTCgTAAATCCTCATCAAA	ACAGAAATGCAGGAGGGTGGCGAGA	18	GAGTAAAAAATAACATAAACGAACT	AAATCATCCAgTAAACCgCC
	CCTCgTAAATCCTCATCAAA	CATTAGAGGGCCACAGGGGATGGGG	20	CTCCAGCATTTTCCAGAAGAATGGT	AAATCATCCAgTAAACCgCC