

1-L Transcription in Alzheimer's Disease

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ELAVL1-4	
NLIVNYLpQM ¹ ODEL ² SLFSSIGEVESAKLI ³ DK	[Homo sapiens]
NLIVNYLpQM ¹ ODEL ² SLFSSIGEVESAKLI ³ DK	ATTTAATcAAATcAAATcCTTCCTGATACCATT AA
NLIVNYLpQM ¹ ODEL ² SLFSSIGEVESAKLI ³ DK	[Drosophila melanogaster]
Rbp found in neurons	
NLIVNYLpQM ¹ ODEL ² SLFSSIGEVESAKLI ³ DK	ATTTAATcAAATcAAATcCTTCCTGATACCATT AA
Pablp	[Saccharomyces cerevisiae]
NIFIKNLHpDIDNKaLYDTFSVFGDILSSKIATDE	ATTTAATcAAATcAAATcCTTCCTGATACCATT AA
Rbp	[Thermoplasma archaeon]
NIYVgNLsYDMtEDDLRKVFEEFGKVESVKIIMDR	ATATgATcAAATcAAATcCTTCCTGATACCATT AA

1 Supplementary Figure S1

2 Supplementary sequence information

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>NP_958817.1 amyloid-beta precursor protein isoform c precursor [Homo sapiens] APP
MLPGLALLLLAAWTARALEVPTDGNAGLLAEPQIAMFCGRNLNMHMNVQNGKWSDPSGKTCIDTKEGILQYCQE
VYPELQITNVVEANQPVTIQNWCKRGRKQCKTHPHFVPIPYRCLVGEFVSDALLVPDKCKFLHQERMDVCETHLHW
HTVAKETCSEKSTNLHDYGMILLPCGIDKFRGVEFVCCPLAEESDNVDSADAEEEDSDVWGGADTDYADGSEDKV
VEVAEEEEVAEVEEEEEADDEDDEDGDEVEEEAEPEYEEATERTTSIATTTTTTTESVEEVVRVPTTAASTPDAV
DKYLETPGDENEHAHFQKAKERLEAKHRERMSQVMREWEAEERQAKNLPKADKKAVIQHFQEKVESLEQEAANER
QQLVETHMARVEAMLNDRRLALENYITALQAVPPRPRHVFNMLKKYVRAEQKDRQHTLKHFEHVRMVDPKKAAQ
IRSQVMTHLRVIYERMNQSLSLLYNVPAVAEEIQDEVDLLQKEQNYSDVLANMISEPRISYGNDALMPSLTET
KTTVELLPVNGEFLDDLQPVHSGFADSVANTENEVEPVDARPAADRGLTTRPGSGLTNIKTEEISEVKMDAEF
RHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIA
```

> Amyloid beta 42 peptide, Aβ-42 peptide

DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIA

Aβ-42 / 1-L transcription S=C, S (Ser) transcription to C (cytidine)

ACATGAACGAATAAAATTTTCAATGCAAGCTTGTGGTTTC

```
>NM_001136180.2 Homo sapiens heat shock factor binding protein 1 like 1 (HSBP1L1), mRNA
```

```
Query 10 AATAAAATTTTCAATGCAAGCTTG 33
      ||| ||||| ||||| |||||
Sbjct 294 AATAGAATTTTCAATGCCAGCTTG 271
```

```
>XM_017000054.1 PREDICTED: Homo sapiens vav guanine nucleotide exchange factor 3 (VAV3), transcript variant X2, mRNA
```

```
Query 11 AATAAAATTTTCAATGCAAGCTTGTGGTTTC 42
```

```
|||||
Sbjct 3697 ATAAAATTTTCAATGAA---TTGTTTGCTTTC 3669
```

>NM_032119.4 Homo sapiens adhesion G protein-coupled receptor V1 (ADGRV1), transcript variant 1, mRNA

```
Query 13 AAAATTTTCAATGCAA---GCTTGTGTTGGTTTC 42
|||||
Sbjct 4798 AAAAGTGACAATGCAAATGGCTTGTTTGGTTTC 4830
```

>NM_001100399.2 Homo sapiens PDS5 cohesin associated factor A (PDS5A), transcript variant 1, mRNA

```
Query 9 GAATAAAATTTTCAATGCAAGCTT 32
|||||
Sbjct 991 GAATAAAATTTTCATTGCAATCTT 968
```

>NM_014442.3 Homo sapiens sialic acid binding Ig like lectin 8 (SIGLEC8), transcript variant 1, mRNA

```
Query 13 AAAATTTTCAATGCAAGCT 31
|||||
Sbjct 2188 AAAATATTCAATGCAAGCT 2170
```

>NM_005725.6 Homo sapiens tetraspanin 2 (TSPAN2), transcript variant 1, mRNA

```
Query 10 AATAAAATTTTCAATG 25
|||||
Sbjct 1991 AATAAAATTTTCAATG 2006
```

>NM_015065.3 Homo sapiens exophilin 5 (EXPH5), transcript variant 1, mRNA

```
Query 14 AAATTTTCAATGCAAGCTTGTTTGGT 39
||
Sbjct 8619 AACTTTTCAATGCAAATTTGTATGGT 8644
```

>NM_198459.4 Homo sapiens DENN domain containing 2C (DENND2C), transcript variant 2, mRNA

```
Query 16 ATTTTCAATGCAAGCTTGTTTGGTTT 41
|||||
Sbjct 1341 ATTTTCAATACAAGCTTGGGTGCTTT 1316
```

>NM_004589.4 Homo sapiens synthesis of cytochrome C oxidase 1 (SCO1), mRNA; nuclear gene for mitochondrial product

```
Query 4 TGAACGAATAAAATTTTCAAT 24
|||||
Sbjct 5272 TGAAGGAAGAAAATTTTCAAT 5292
```

>XM_017011793.2 PREDICTED: Homo sapiens polypeptide N-acetylgalactosaminyltransferase like 5 (GALNTL5), transcript variant X1, mRNA

```
Query 8 CGAATAAAATTTTCAATGCAA 28
|||||
Sbjct 1160 CGAATAAAGTTTCCATGCAA 1140
```

Reverse Aβ-42 / 1-L transcription S=C, S (Ser) transcription to C (cytidine)

CTTTGGTTTGTTTCGAACGTAACCTTTTAAATAAGCAAGTACA

>XM_017018372.2 PREDICTED: Homo sapiens SET binding factor 2 (SBF2), transcript variant X4, mRNA

```
Query 3 TTGGTTTGTTTC-GAACGTAACCTTTTAAAT 31
|||
```

Sbjct 1119 TTGCTTTGTTGTGAACATAACTTTTAAAT 1090

>NM_003884.5 Homo sapiens lysine acetyltransferase 2B (KAT2B), mRNA
Query 20 AACTTTTAAATAAGCA 36
|||||

Sbjct 3153 AACTTTTAAATAAGCA 3169

>NM_133334.2 Homo sapiens nuclear receptor binding SET domain protein 2 (NSD2), transcript variant 7, mRNA
Query 22 CTTTAAATAAGCAAG 38
|||||

Sbjct 6161 CTTTAAATAAGCAAG 6145

>XR_945930.3 PREDICTED: Homo sapiens family with sequence similarity 245 member B (FAM245B), transcript variant X1, ncRNA
Query 22 CTTTAAATAAGCAAG 38
|||||

Sbjct 242 CTTTAAATAAGCAAG 258

>NM_004001.5 Homo sapiens Fc gamma receptor IIb (FCGR2B), transcript variant 1, mRNA
Query 8 TTGTTTGAACGTAACCTTTTAAATAAGCA 36
||||| ||||| | ||| |||||

Sbjct 1363 TTGTTCTCACGTAACCTGTAACATAAGCA 1335

>NM_203330.2 Homo sapiens CD59 molecule (CD59 blood group) (CD59), transcript variant 1, mRNA
Query 18 GTAACCTTTTAAATAAGCA 36
||||| |||||

Sbjct 1475 GTAACCTTTTAAATAAGCA 1457

>NM_004432.5 Homo sapiens ELAV like RNA binding protein 2 (ELAVL2), transcript variant 1, mRNA
Query 14 GAACGTAACCTTTTAAATA 32
||||| |||||

Sbjct 2754 GAACGTAACCTTCAAATA 2736

>NM_152624.6 Homo sapiens decapping mRNA 2 (DCP2), transcript variant 1, mRNA
Query 10 GTTCGAACGTAACCTTTTAA 30
||| ||||| |||||

Sbjct 3960 GTTGGAACGTAACCTTTTAA 3940

>NM_173791.5 Homo sapiens PDZ domain containing 8 (PDZD8), mRNA
Query 27 AAAATAAGCAAGTACA 42
|||||

Sbjct 3556 AAAATAAGCAAGTACA 3571

>XM_017020407.2 PREDICTED: Homo sapiens methyltransferase 21C, AARS1 lysine (METTL21C), transcript variant X1, mRNA
Query 22 CTTTAAATAAGCAA 37
|||||

Sbjct 3535 CTTTAAATAAGCAA 3550

Aβ-42 / 1-L transcription S=G, S (Ser) transcription to G (guanosine)

ACATGAAGGAATAAAATTTTCAATGGAAGCTTGTTGGTTTC

>NM_152703.5 Homo sapiens sterile alpha motif domain containing 9 like (SAMD9L), transcript variant 1, mRNA
Query 2 CATGAAGGAATAAAA-TTTTCA 22
|||||
Sbjct 3904 CATGAAGGAATAAAAGTTTCA 3883

>NM_001005190.2 Homo sapiens olfactory receptor family 7 subfamily A member 10 (OR7A10), mRNA
Query 3 ATGAAGGAATAAAATTTTCAAT 24
|||||
Sbjct 1559 ATGACGGAATATAATTTTCAAT 1580

>NM_017672.6 Homo sapiens transient receptor potential cation channel subfamily M member 7 (TRPM7), transcript variant 1, mRNA
Query 6 AAGGAATAAAATTTTC-----AATGGAAGCTTGTTTGGTTTC 42
|||||
Sbjct 2807 AAGGCATAAACTTTTCGCGTAATTGGAAGCTTTTTTGATTTC 2766

>NM_014616.3 Homo sapiens ATPase phospholipid transporting 11B (putative) (ATP11B), mRNA
Query 2 CATGAAGGAATAAAATTTTCAATGGAA 28
|||
Sbjct 5310 CATAAAGGAATTACATTTTCAAGGGAA 5284

>XM_011517508.2 PREDICTED: Homo sapiens lymphocyte antigen 96 (LY96), transcript variant X3, mRNA
Query 8 GGAATAAAATTTTCAATGGAAG 29
|||||
Sbjct 414 GGAATAAAATTTTCTAAGGAAG 435

>XM_017004664.1 PREDICTED: Homo sapiens sodium voltage-gated channel alpha subunit 3 (SCN3A), transcript variant X7, mRNA
Query 7 AGGAATAAAATTTTCAATGGAA 28
||
Sbjct 5191 AGAAATAAAATTATCAATGGAA 5212

>NM_080661.6 Homo sapiens glycine-N-acyltransferase like 1 (GLYATL1), transcript variant 1, mRNA
Query 10 AATAAAATTTTCAATGGAA 28
|||||
Sbjct 1409 AATAAAATTTTCAATAGAA 1427

>NM_003617.4 Homo sapiens regulator of G protein signaling 5 (RGS5), transcript variant 1, mRNA
Query 4 TGAAGGAATAAAATTTTCAATGGAAGCTT 32
||
Sbjct 3035 TGTAGGAATACAATTTTAAATGTAAGATT 3007

>NM_001004346.4 Homo sapiens methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 2 like (MTHFD2L), transcript variant 1, mRNA
Query 12 TAAATTTTCAATGGAAGCTTG-TTTGGTT 40
|||||
Sbjct 1321 TAAATTTTCATTGGAA--TTGTTTGGTT 1294

>NM_025027.4 Homo sapiens zinc finger protein 606 (ZNF606), transcript variant 1, mRNA
Query 1 ACATGAAGGAATAAAA 16
|||||

Sbjct 3781 ACATGAAGGAATAAAA 3796

>NM_004125.4 Homo sapiens DNAJC25-GNG10 readthrough (DNAJC25-GNG10), mRNA

Query 4 TGAAGGAATAAAATTTTCAAT 24
|||||

Sbjct 717 TGAAGGAATAGAATTTTAAAT 737

>NM_001017998.4 Homo sapiens G protein subunit gamma 10 (GNG10), transcript variant 1, mRNA

Query 4 TGAAGGAATAAAATTTTCAAT 24
|||||

Sbjct 421 TGAAGGAATAGAATTTTAAAT 441

>NM_182641.4 Homo sapiens bromodomain PHD finger transcription factor (BPTF), transcript variant 1, mRNA

Query 16 ATTTTCAATGGAAGCTTGTTT 36
|||||

Sbjct 3783 ATTTTCAATGGAATTTTGTTT 3763

>NM_021255.3 Homo sapiens pellino E3 ubiquitin protein ligase family member 2 (PELI2), mRNA

Query 4 TGAAGGAATAAAATTTTCAAT 24
|||||

Sbjct 5575 TGAAGAAATAAACTTTTCAAT 5555

>NM_144775.3 Homo sapiens SMCR8-C9orf72 complex subunit (SMCR8), mRNA

Query 8 GGAATAAAATTTTCAA 23
|||||

Sbjct 4682 GGAATAAAATTTTCAA 4667

>XM_017022414.2 PREDICTED: Homo sapiens mitogen-activated protein kinase kinase 5 (MAP2K5), transcript variant X5, mRNA

Query 5 GAAGGAATAAAATTTTCAA--TGGAAGCTT 32
|||||

Sbjct 1949 GAAGGGTTAAAATTTTCAACTTAGAAGCTT 1920

>NR_037883.1 Homo sapiens POU3F3 adjacent non-coding transcript 1 (PANTR1), transcript variant 1, long non-coding RNA

Query 13 AAAATTTTCAATGGAAGCTTGTTTGG 38
|||

Sbjct 291 AAATTTTAAATGGAAGCTTTATTGG 316

Reverse A β -42 / 1-L transcription S=G, S (Ser) transcription to G (guanosine)

CTTTGGTTTGTTCGAAGGTAAGTAACTTTTAAAATAAGGAAGTACA

>NM_015176.4 Homo sapiens F-box protein 28 (FBXO28), transcript variant 1, mRNA

Query 4 TGGTTTGTTCG-AAGGTAAGTAACTTTTAAAATAA 33
|||||

Sbjct 2878 TGGTTTGTTCGGAAGGTAA-TTTTAAAATAA 2907

>NM_207015.3 Homo sapiens N-acetylated alpha-linked acidic dipeptidase like 2 (NAALADL2), mRNA

Query 19 TAACTTTTAAAATAAGGAAGTACA 42
|||||

Sbjct 8383 TAACTTTTAAAATAAGGTAGTCCA 8360

>NM_024852.4 Homo sapiens argonaute RISC catalytic component 3 (AGO3), transcript variant 1, mRNA
Query 19 TAACTTTTAAAATAAGGAAGTACA 42
|||||
Sbjct 11234 TAACTTTTAAAATAA--AAGTACA 11255

>NM_024513.4 Homo sapiens FYVE and coiled-coil domain autophagy adaptor 1 (FYCO1), transcript variant 1, mRNA
Query 21 ACTTTTAAAATAAGGAAGTACA 42
|||||
Sbjct 8113 ACTTTTAAAATAATAAGTACA 8134

>NM_015158.5 Homo sapiens KN motif and ankyrin repeat domains 1 (KANK1), transcript variant 1, mRNA
Query 23 TTTTAAAATAAGGAAGT 39
|||||
Sbjct 4644 TTTTAAAATAAGGAAGT 4660

>NM_032116.5 Homo sapiens katanin catalytic subunit A1 like 1 (KATNAL1), transcript variant 1, mRNA
Query 19 TAACTTTTAAAATAAGGAAGTA 40
|||||
Sbjct 3411 TAACTTTTAAAATAAGAAATA 3432

>NM_153836.4 Homo sapiens cellular repressor of E1A stimulated genes 2 (CREG2), mRNA
Query 18 GTAACCTTTTAAAATAAG 34
|||||
Sbjct 3543 GTAACCTTTTAAAATAAG 3527

>NM_012072.4 Homo sapiens CD93 molecule (CD93), mRNA
Query 15 AAGGTAACCTTTTAAAATAAGGA 36
|| |||||
Sbjct 3405 AATGTAACCTTTTAAAATGAGGA 3384

>XM_011533161.3 PREDICTED: Homo sapiens calpain 13 (CAPN13), transcript variant X6, mRNA
Query 18 GTAACCTTTTAAAATAAGGAAGT 39
|||||
Sbjct 2649 GTAACCTTTTGAAATTAGGAAGT 2670

>NM_001362797.2 Homo sapiens zinc fingers and homeoboxes 2 (ZHX2), transcript variant 1, mRNA
Query 19 TAACTTTTAAAATAAGGAA 37
|||||
Sbjct 4309 TAACTTTTAAAAGAAGGAA 4327

>XM_017021640.2 PREDICTED: Homo sapiens valosin containing protein lysine methyltransferase (VCPKMT), transcript variant X2, mRNA
Query 15 AAGGTAACCTTTTAAAATAA 33
|||||
Sbjct 5051 AAGGTAACCTTTTAAAAAAA 5033

>NM_024524.4 Homo sapiens ATPase 13A3 (ATP13A3), transcript variant 1, mRNA
Query 15 AAGGTAACCTTTTAAAA 30
|||||
Sbjct 5510 AAGGTAACCTTTTAAAA 5525

>NM_015074.3 Homo sapiens kinesin family member 1B (KIF1B), transcript variant 1, mRNA

```
Query 11      TTCGAAGGTAAC TTTTAAAAT 31
           || ||||| |||||
Sbjct 8077    TTTGAAGGTCAC TTTTAAAAT 8097
```

>XM_017008195.1 PREDICTED: Homo sapiens coiled-coil serine rich protein 1 (CCSER1), transcript variant X9, mRNA

```
Query 20      AACTTTTAAATAAGGAAGTA 40
           || ||||| |||||
Sbjct 6426    AAATTTTAAATATGGAAGTA 6446
```