Complete sequence of rabbit butyrylcholinesterase

Omar Jbilo and Arnaud Chatonnet*

Département de Physiologie Animale, Institut National de Recherche Agronomique, 2 place Viala, 34060 Montpellier Cedex 1, France

Butyrylcholinesterase (E.C. 3.1.1.8) is present in all vertebrates (1, 2). We present here the sequence of rabbit BCHE gene deduced from three genomic clones described elsewhere (3). Each clone contained one exon and together covered the entire coding sequence. The structure of the rabbit BCHE gene is identical to the human gene (4) and to Torpedo ACHE gene (5). Positions of splicing sites within the coding sequence are conserved but non coding sequences are not conserved except for a portion of the 3' end untranslated sequence which may have a role in the regulation of the mRNA. The identity with human BCHE is 90.3% in nucleotidse over the coding sequence and 91.6% in amino acids. The high proportion of bases A and T is a characteristic of both human and rabbit BCHE gene.

ACKNOWLEDGEMENTS

REFERENCES

1. Massoulié,J. and Bon,S. (1982) *Annu. Rev. Neurosci.* 5, 57–106.
2. Chatonnet,A. and Lockridge,O. (1989) *J. Biochem.* 260, 625–634.
3. Chatonnet,A. *et al.* (1990) *Cell. Mol. Neurobiol.* in press.
4. Arpagaus,M. *et al.* (1990) *Biochemistry* 29, 124–131.
5. Schumacher,M. *et al.* (1988) *J. Biol. Chem.* 263, 18979–18987.

```
366                                                                          X52090
ATATGCAGGACAAGGGCACACTCATATCTACCCGGTTTCCTTTCCTGGTTCCTTTTACTCTGC ATG GTT ACT AGG AGT TCA CAC
ACC GAA GAT GTG ATA ATT ACA ACC AAG AAT GGA AGA ATC AGA GGG ATA AAC TTG CCG GTT TTC GGA GGC
ACT GTA ACA GCC TTT CTT GGC ATT CCC TAT GCA CAG CCA CCT CTA GGT AGA CTT CGA TTC AAA AAG CCA
CAA TCT CTA ACC AAA TGG TCT GAC ATT TGG AAT GCC ACA AAA TAT GCA AAT TCT TGC TGT CAG AAC ATA
GAT CAA AGT TTC CCA GGC TTC CAT GGA TCA GAA ATG TGG AAC CCA AAC ACT GAC CTC AGT GAA GAT TGT
TTA TAT CTG AAT GTG TGG ATT CCA ACA CCT AAA CCA AAA AAT GCC ACT GTG ATG ATA TGG ATC TAT GGT
GGT GGT TTT CAG ACT GGG ACC TCT TCT TTG CAA GTT TAT GAT GGC AAG TTC TTG ACT CGG GTT GAA AGA
GTG ATT GTG GTT TCA ATG AAC TAT AGG GTG GGT GCT TTA GGA TTC CTA GCT TTG CCG GGA AAT CCC GAA
GCC CCA GGG AAT ATG GGC TTA TTT GAT CAA CAG TTG GCC CTT CAG TGG GTT CAA AAA AAC ATA GCA GCC
TTT GGT GGA AAT CCT AAA AGT GTA ACT CTC TTT GGG GAA AGT GCA GGA GCA GCT TCT GTG AGC CTC CAT
TTG CTC TCT CCT AGA AGT CAC CCG TTG TTC ACC AGA GCC ATT CTG CAA AGT GGA TCA TCT AAT GCC CCT
TGG GAG GTC ATG TCT CTT CAT GAA GCT AGG AAC AGA ACG TTG ACA TTA GCT AAG TTT GTT GGA TGC TCT
ACA GAG AAT GAG ACT GAA ATC ATA AAA TGC CTT CGA AAC AAA GAT GCC CAG GAG ATT CTT CTG AAT GAA
GTA TTT GTT GTT CCC TTT GAT AGT CTC CTC TCA GTG AAC TTT GGT CCA ACA GTG GAT GGT GAC TTT CTC
ACT GAC ATG CCA GAC ACA CTC CTT CAG CTT GGA CAA CTA AAA AAA ACC CAG ATC TTG GTG GGT GTG AAT
AAA GAT GAA GGG ACA GCC TTT CTT GTC TAT GGT GCT CCT GGT TTC AGT AAA GAT AAC ACT AGT ATC ATA
ACT AGA AAA GAA TTT CAG GAA GGT TTA AAA ATA TTT TTT CCT GGA GTG AGT GAG GAG TTT GGA AAG GAA TCC
ATC CTT TTT CAT TAC ACA GAC TGG GTA GAT GAG CAG AGG CCT GAG AAT TAC CGC GAG GCC TTG GAT GAT
GTG GTT GGG GAT TAT AAT TTC ATA TGC CCT GCC TTG GAG TTC ACC AAG AAG TTC TCA GAA TGG GGA AAT
AAT GCC TTT TTC TAC TAT TTT GAA CAC CGA TCC TCC AAA CTT CCG TGG CCA GAA TGG ATG GGA GTG ATG
CAT GGC TAT GAA ATT GAA TTT GTC TTT GGC TTA CCA CTG GAA AGA AGA GTT AAT TAT ACA AAA GCT GAA
GAA ATT TTG AGT AGA TCC ATT ATG AAA CGT TGG GCA AAT TTT GCA AAG TAT GG  GCAAATTTTGCAAAGTATG
GGTGAAGTGTGATTTTCCCTT 1922
438                                                                          X52091
CTAACAAATATTTCAACTGAAGTGTAATATCTCTATTTAATTATGTAG  T AAT CCA AAT GGG ACC CAG AAC AAT AGC ACA
AGA TGG CCA GTC TTC AAA AGC ACT GAA CAA AAA TAT CTG ACC TTG AAT ACA GAG TCA CCA AGG ATA TAC
ACT AAA CTA CGT GCT CAA CAA TGC CGA TTC TGG ACA CTA TTT TTC CCC AAA GTC TTG GAA ATG ACA G
GTGTGTGTTTTTTTTATTGCTTGCTTAATTAATATGGTATGGATTATGTAGAAGGAGAAACCTGGCAG 720
166                                                                          X52092
ACAG GA AAT ATT GAT GAA GCA GAA CAA GAG TGG AAA GCA GGA TTC CAT CGT TGG AAC AAT TAC ATG ATG
GCC TGG AAA AAT CAC TTT AAT GAC TAC ACT AGC AAA AAA GAA CGC TGC GCA GGC TTC TAATTAGTGGAATAG
                                                                                         306
```