

Isolation of cloned mouse protein kinase C beta-II cDNA and its sequence

Yong-Ming Tang and Curtis L.Ashendel
Department of Medicinal Chemistry and Pharmacognosy, Purdue University School of Pharmacy, West Lafayette, IA 47907, USA

Submitted June 25, 1990 EMBL accession no. X53532

The cDNA for protein kinase C (PKC) subtypes α (1), β-I (2, 3, 4), β-II (2, 4), γ (1, 4), δ (5), ϵ (3, 5) and ζ (5) have been described for rat, while only the sequence of the α (6, 7) and epsilon (8) subtypes of PKC in mouse have been reported. We have utilized synthetic oligonucleotides based on the sequences of rat PKC-β and rat PKC-γ to isolate cloned cDNA from a commercially available cDNA library made from mouse brain (Promega Corp., Madison, Wisconsin, USA). The nucleotide sequence of the cloned cDNA (Fig. 1) was obtained from two clones (bp 1 to 537 from clone 51−1 and 530 to 2980 from clone 53−1) and assembled as shown by similarity to rat PKC-β-II. The first 2131 nucleotides were 97.0% identical with the corresponding rat PKC-β-II sequence (2). The predicted amino acid sequence varies from the sequence predicted for rat PKC-β-II (2) by only 1 of 673 residues: valine rather than methionine at position 419. However, sequences of rat PKC-β-I and PKC-β-II that predict the encoding of valine at this position were reported by others (3, 4), and the valine in this position is conserved in the sequences of all other rat PKC isotypes (1, 4, 5) as well as in all published sequences of all isotypes of rabbit, mouse, bovine, and human PKC.

REFERENCES

1. Ono,Y. *et al.* (1988) *Nucleic Acids Res.* **16**, 5199−5200.
2. Ono,Y. *et al.* (1986) *FEBS Lett.* **206**, 347−352.
3. Housey,G.M. *et al.* (1987) *Proc. Natl. Acad. Sci. USA* **84**, 1065−1069.
4. Knopf,J.L. *et al.* (1986) *Cell* **46**, 491−502.
5. Ono,Y. (1988) *J. Biol. Chem.* **263**, 6927−6932.
6. Rose-John,S. *et al.* (1988) *Gene* **74**, 465−471.
7. Megidish,T. and Mazurek,N. (1989) *Nature* **342**, 807−811.
8. Schaap,D. *et al.* (1989) *FEBS Lett.* **243**, 351−357.

Figure 1. Nucleotide sequence of mouse brain PKC β-II cDNA.