FBrf0075315

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December 6, 1993

Professor Michael Ashburner
Department of Genetics
University of Cambridge

Dear Michael,

The 49D-F troponin-C entry in flybase is a protein of unknown function referred to by Ayme-Southgate and Pardue as mp-20 (20 kilodaton muscle protein). Because the protein has two putative calcium domains (troponin-C and calmodulin have four), the authors thought that it might be fly troponin-C. Proteins that closely resembled vertebrate troponin-C had not been documented at the time of the Ayme-Southgate discovery, so their supposition was reasonable. The same authors subsequently have found that the protein is not associated with actin filaments, hence cannot possibly be a troponin subunit.

We have now isolated three genes that encode bona fide *Drosophila* troponin-C isoforms, based upon their striking sequence similarities to vertebrate troponin. The three genes are located within the 41C, 47D, and 73B subdivisions. In all likelihood these specify all of the troponin-C of flies, as we have been unable to find additional related genes, save for calmodulin and its relatives.

I hope that this information resolves the issue.

With best wishes,

Eric Fyrberg

UNIVERSITY OF CAMBRIDGE DEPARTMENT OF GENETICS

Downing Street, Cambridge, CB2 3EH, England.

Michael Ashburner FRS. Professor of Biology.

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December 6, 1993

MA/jes

To:- FAX NUMBER [redacted]

For:- Dr E Fryberg, John Hopkins University

From: Michael Ashburner

Number of pages, including cover sheet 2

In case of query phone [redacted] immediately.

Dear Eric

Help! FlyBase has a troponin-C entry mapped at 49D-F. Is this the same as your new one? I enclose the top of your Genbank entry and the FlyBase record on TpnC. Thanks.

Best wishes

Michael

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LOCUS       DMTNC47D      595 bp    RNA             INV       23-NOV-1993
*a TpnC
*i DmTbC
DEFINITION  D.melanogaster DmTnC 47D mRNA for troponin-C
ACCESSION   X76044
KEYWORDS    troponin C.
SOURCE      fruit fly
  ORGANISM  Drosophila melanogaster
            Eukaryota; Animalia; Metazoa; Arthropoda; Uniramia; Insecta;
            Pterygota; Neoptera; Holometabola; Diptera; Brachycera;
            Cyclorrhapha; Schizophora; Drosophiloidea; Drosophilidae.
REFERENCE   1  (bases 1 to 595)
  AUTHORS   Fyrberg,E.A.
  TITLE     Direct Submission
  JOURNAL   Submitted (08-NOV-1993) to the EMBL/GenBank/DDBJ databases. E.A.
            Fyrberg, Johns Hopkins University, Charles & 34th Streets,
            Baltimore, MD 21218, USA
  STANDARD  full automatic
REFERENCE   2  (bases 1 to 595)
  AUTHORS   Fyrberg,C., Parker,H., Hutchison,B. and Fyrberg,E.A.
  TITLE     Drosophila melanogaster genes encoding three troponin-C isoforms
  JOURNAL   Unpublished
  STANDARD  full automatic
FEATURES             Location/Qualifiers
     source          1..595
                     /organism="Drosophila melanogaster"
                     /chromosome="2"
                     /map="47D"
     CDS             50..517
                     /gene="TnC47D"
                     /product="troponin-C"
                     /codon_start=1
--------------------------------------------------------------------------------
*a TpnC
*z 03740
*e Troponin-C
*i Tpn
*w French and Pardue.
*b 2-[67].
*c Placed in 49D3-50A3 based on the deletion of the
*c cloned sequence in Df(2R)vg =
*c Df(2R)49D3-4;49F15-50A2-3.
*D 49F
*d troponin-C
*p Structural gene for troponin-C.
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