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Sequence of a giardin subunit cDNA from *Giardia lamblia*

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The filamentous protein giardin is structurally associated with microtubules in Giardia lamblia. We present the sequence of one giardin chain (beta-giardin) corresponding to band 14B of Giardia cytoskeleton proteins (1). A Giardia cDNA library cloned and expressed in lamda gt11 was screened with antibodies monospecific to giardin (2). One positive phage clone (SR7) selected for sequencing contained an insert of 839 bp encoding the complete giardin polypeptide of 29.4 kD. The amino acid sequence of 259 residues is predicted to be alpha-helical (3). An unusual polyadenylation signal (AGTAAA) is present in the 3' non-coding region of the cDNA sequence.

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   1  TCACCTCCACCCGTACGCTCACCCAGACG

        M  D  K  P  D  D  L  T  R  S  A  T  E  T  A  V  K  L  S  N  M  N  Q  R  V
  30  ATGGACAAGCCCGACGACCTCACCCGCAGTGCGACCGAGACGGCGGTCAAGCTCAGCAACATGAACCAGCGCGTC

        S  R  F  H  D  K  M  E  N  E  I  E  V  R  R  V  D  D  D  T  R  V  K  M  I
 105  AGCAGGTTCCACGACAAGATGGAGAACGAGATCGAGGTCCGCCGCGTCGACGACGACACGCGCGTGAAGATGATC

        K  D  A  I  A  H  L  D  R  L  I  Q  T  E  S  R  K  R  Q  A  S  F  E  D  I
 180  AAGGACGCCATCGCACACCTCGACAGGCTCATCCAGACGGAGTCGAGGAAGCGCCAGGCCTCGTTCGAGGACATC

        R  E  E  V  K  K  S  A  D  N  M  Y  L  T  I  K  E  E  I  D  T  M  A  A  N
 255  CGCGAGGAGGTCAAGAAGTCCGCCGACAACATGTACCTAACGATCAAGGAGGAGATCGACACCATGGCTGCAAAC

        F  R  K  S  L  A  E  M  G  D  T  L  N  N  V  E  T  N  L  Q  N  Q  I  A  I
 330  TTCCGCAAGTCCCTTGCGGAGATGGGCGACACACTCAACAACGTTGAGACAAATCTCCAGAACCAGATCGCCATC

        H  N  D  A  I  A  A  L  R  K  E  A  L  K  S  L  N  D  L  E  T  G  I  A  T
 405  CATAACGACGCCATCGCGGCTCTCAGGAAGGAGGCCCTCAAGAGCCTGAACGATCTCGAGACGGGCATTGCCACG

        E  N  A  E  R  K  K  M  Y  D  Q  L  N  E  K  V  A  E  G  F  A  R  I  S  A
 480  GAGAACGCAGAAAGGAAGAAGATGTACGACCAGCTCAACGAGAAGGTCGCAGAGGGCTTCGCCCGCATCTCCGCC

        A  I  E  K  E  T  I  A  R  E  R  A  V  S  A  A  T  T  E  A  L  T  N  T  K
 555  GCGATCGAGAAGGAGACGATCGCCCGCGAGAGGGCCGTTAGCGCTGCCACGACAGAAGCGCTCACAAACACGAAG

        L  V  E  K  C  V  N  E  Q  L  E  N  V  A  S  E  I  R  A  I  Q  E  E  I  D
 630  CTCGTCGAGAAGTGCGTCAACGAGCAGCTCGAGAACGTCGCCTCGGAGATCCGCGCTATCCAGGAGGAGATCGAC

        R  E  K  A  E  R  K  E  A  E  D  K  I  V  N  T  L  E  D  V  V  S  K  I  Q
 705  CGCGAGAAGGCCGAACGCAAGGAGGCAGAGGACAAGATCGTCAACACTCTCGAGGACGTCGTCTCGAAGATCCAG

        G  G  L  S  M  V  T  K  H
 780  GGCGGCCTCTCGATGGTCACAAAGCACTAAGCGCCTGCAGTAAATCATTTAC(A)n
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2. Crossley, R. et al. (1986) J. Cell Sci. 80, 233-252.
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