

Nucleotide sequence of *Brugia pahangi* 17.4 kD proteinDennis L. Ellenberger<sup>1,2,3</sup>, Norman J. Pieniazek<sup>3</sup> and Patrick J. Lammie<sup>2,3\*</sup>

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Filarial worms are a significant cause of morbidity and continue to present a global health problem. The World Health Organization (1984) reports that 905 million people are exposed to the risk of infection and nearly 100 million are currently infected. Despite an apparent correlation between the host immune response and parasitological status (2), little is known about the recognition of specific filarial antigens or the clinical consequence of immune responsiveness to these antigens. Therefore, a lambda cDNA expression library was prepared from *Brugia pahangi* adult worms and screened with sera from filariasis patients. Clone 1112, a 624 bp EcoRI fragment, was recovered and subcloned in M13mp18 and M13mp19 vectors. The DNA sequence was obtained from both strands by the Sanger method(3). Sequencing reveals consensus polyadenylation signals, a polyA tail, and an open reading frame of 453 bp. The polymerase chain reaction was used to add NcoI sites and to subclone the 453 bp fragment into the *E. coli* expression vector pKK233-2 (Pharmacia LKB, Piscataway, NJ). The expressed protein has an apparent molecular weight of 17.4 kD and was recognized by human sera in a Western blot. Bacterial lysates of the clone, but not control lysates, stimulated the proliferation of peripheral blood lymphocytes of individuals living in Leogane, Haiti, an area endemic for *Wuchereria bancrofti*(4). The cloned DNA fragment and polypeptide predicted by the open reading frame do not demonstrate similarities with other known DNA sequences or proteins after screening GenBank, EMBL, NBRF/PIR and SWISS-PROT databases(5) through BIONET as of August 4, 1989.

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                                     M G R M H N P G K G I
GTAAATTGTGGAATTATATCAAGTAAGAGTATTACTGCGAGTTAATAATCGTCAATTATGGGTGCGATGCACAATCCCGGCAAGGGTATC 90
S Q S A L P Y R R S V P T W L K L T S E E V Q E Q V T R L A
TCACAGTCGGCGTTGCCATACCGTCGATCGGTACCAACTTGGCTTAAGCTTACAAAGTGAGGAAGTTCCAGGAGCAAGTTACAGCTCTTGCT 180
K K G L R P S Q I G V I L R D S H G V A Q V R R V T G N K I
AAAAGGGTTTACGTCCCTCGCAGATTGGTGAATACTCGGTGATTCACATGGCGTTGCCAGGTTCCGCGTGTACCGGTAACAAGATT 270
V R I L K A K G M A P E I P E D L Y H L I K K A V N I R K H
GTACGATTTTGAAGCTAAAGGTATGGCCCTGAAATCCCGGAAGATTGTATCACCTTATAAAAAAAGCAGTTAATATTCCGCAAGCAC 360
L E R N R Q D K D S K Y R L I L V Q S R I H R L A R Y Y K T
TTAGAGAGAAATGCCAGGACAAAGACTCAAAGTATAGACTGATTCCTTGTGCAATCACGTATCCATCGCTTGGCTCGATATTACAAAACG 450
K R Q L P A T W K Y E S S T A S A L V S
AAACGCCAATTGCCAGCCACGTGGAAATACGAATCATCAACGGCGTCAGCACTGTTTCATAAAGTGAATAATTTCTGTTTTGCTGTTGTC 540
AGTTTACTTCCTTTTTTTTGTAGAAAAAAGTTTTTTTACGAAATAAATAATTGCTTATTAATAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 624
                                     polyA site

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