We have constructed a bacteriophage lambda derivative, λ T7-T3/E-H, that allows directional cDNA cloning and subsequent sense or antisense transcription of the inserted DNA by phage T7 and T3 polymerases respectively. This vector is a derivative of λ NM149 (1) where the segment between the unique sites HindIII (position 28.66 Kbp) and EcoRI (position 28.89 Kbp) was substituted with the segment from position 620 to 1200 of the Blue Scribe (-) vector (Vector Cloning Systems). The substituted region contains the bacteriophage T7 and T3 promoters, embedded in frame within the E.coli lacZ gene, that allow in vitro transcription of the cloned cDNA. This vector can accommodate DNA fragments up to 8 kbp. Unique cloning sites are provided by EcoRI and HindIII recognition sequences present within the multilinker region that separates the two promoters. These sites can be exploited for constructing full length oriented cDNA libraries according to the procedure of Dorssers and Postmers (2), that generates via synthetic oligonucleotides a HindIII recognition sequence at the 3' oligo(dA) stretch of the cDNA molecule and an EcoRI site at the 5' terminus.

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