

Oligonucleotides for Pathogen Detection

PCR is now routinely used to diagnose specific bacterial and viral pathogenic infections. These assays have exploited the existence of pathogen specific DNA sequences to amplify specific regions of the pathogen genome. The amplified product thus obtained (which can be visualised by agarose gel electrophoresis) helps in diagnosis of specific infections.

The choice of the specific genome sequence (and the sequence of the primer pair) has been, by various investigators, made on the basis of considerations of high sensitivity and specificity for the pathogen of interest. There is usually no unique choice of primer pair for a specific pathogen and literature has several alternative choices of primer pairs (and the region of PCR amplification) depending on the group carrying out the studies.

From among various alternate choices we have chosen one primer pair (and an internal oligo probe in some cases) for each pathogen ; the reference is given in each case. There are alternative choices (based on existing published literature) of primer pairs for the pathogens listed, as well as for other pathogens which might be of interest to the pathologists. These can be synthesised on request.

Details of PCR amplification :

Primer directed enzymatic amplification of specific DNA sequences uses two oligonucleotide primers that flank a target DNA segment and repetitive cycles of duplex denaturation, primer annealing and primer extension with DNA polymerase to synthesize millions of copies of a specific DNA fragment. These primers are oriented so that DNA synthesized by the polymerase proceeds in the region between the primers. This results in the exponential accumulation of the specific target fragment 2^n , where n is the number of cycles. The recommended temperatures for annealing, amplification etc., and the number of cycles used for the investigations can be given as guidance for the user along with the primers on request.

Bacterial Pathogens

Pathogenic Leptospira species primers

Cat. No.	Primer Sequence (5' to 3')	Amplified Product Size (bp)
	Forward: CGC TGG CGG CGC GTC TTA AA	631
	Reverse: TTC ACC GCT ACA CCT GGA A	

Sample requirements: Blood/Serum/Plasma/Urine

Reference : Hookey, J.V. Detection of Leptospiraceae by amplification of 16S ribosomal DNA FEMS Microbiol Lett 1992, Jan 15 69 (3): 267- 274.

Ordering Information:

Catalogue Number	Product	Pack Size
BACTERIAL PATHOGENS		
116710	Pathogenic Leptospira species primer Set (Primer pair: 6.6 µg, 0.2 OD/vial)	1 Set