

## PCR Based Diagnostic Kits

PCR has become one of the most important tools in molecular diagnostics, providing maximum sensitivity and specificity for detection of nucleic acid targets. Real-time monitoring of PCR has simplified and accelerated PCR laboratory procedures and has increased information obtained from specimens including routine quantification and differentiation of amplification products. PCR based methods have emerged as the most sensitive and reliable molecular technique in clinical applications for pathogen detection and simultaneous identification of multiple targets. PCR based diagnostic kits facilitate rapid detection of pathogenic organisms including viruses and bacteria in clinical samples as compared to traditional antibody-based serological methods. The sensitivity of this technique allows pathologists to diagnose any infectious agent, such as Mycoplasma, *E.coli*, Mycobacteria, Dengue etc. at an initial stage of infection by detecting fewer copy numbers of their genetic material. Modified PCR protocols and methodologies are today available which allow quick detection and quantification of viral RNA in clinical samples. All these protocols are based widely upon the RT-PCR technology, i-e, PCR preceded by a reverse transcription in a one-step reaction. The entire range of diagnostic kits can be divided into the following categories:

1. PCR based kits (Semi-quantitative): The principle of all the kits are based upon detection of a pathogen by using semi-quantitative PCR methods. This range includes detection of *E.coli* O157:H7 (MBPCR002), Salmonella (MBPCR004), Mycobacteria (MBPCR009), Dengue (MBPCR011), etc.
2. PCR based kits (Quantitative): All these kits utilize the principle for detection of a microorganism using quantitative PCR methods. This range includes Mycoplasma (MBPCR015) and Mycobacterium (MBPCR017).

### Storage and Shelf life:

PCR based diagnostic kits have a shelf-life of six months when stored at -20°C.

### MBPCR002 - *E.coli* O157: H7 Detection Kit



Lane	Sample	Lane	Sample
1	-	8	<i>E.coli</i> O157:H7 (From Juice)
2	-ve control	9	Enterococci
3	-ve control	10	<i>E.coli</i> O157:H7 (From Meat)
4	<i>E.coli</i> O157:H7	11	<i>Paeroginosa</i>
5	<i>S.aureus</i>	12	<i>K.pneumoniae</i>
6	<i>S.faecalis</i>	13	<i>E.coli</i>
7	<i>L.monocytogenes</i>	14	100 bp DNA Ladder

### Specifications

**Sensitivity:** Detectable upto 10-100 CFU / ml (mg) before pre-enrichment.

**Specificity:** 100% exclusivity for about 100 non-target strains.