

# Probe Labeling

## Non-Isotopic Probe Labeling Systems

KPL's Detector™ Biotinylation Kits are the integral first step in highly sensitive non-radioactive detection of nucleic acids. Three different systems are available for biotin labeling both DNA and RNA: Detector Random Primer DNA Biotinylation Kit and Detector PCR DNA Biotinylation Kit for the generation of DNA probes or Detector RNA *in vitro* Transcription Biotinylation Kit for efficient riboprobe creation. Depending on your template and detection requirements, KPL has a system to meet these needs.

### Stability

Nucleic acid probes labeled with biotin are stable for 1 year and can be reused many times.

### Efficiency

Biotin is incorporated into nucleic acids much more efficiently than DIG; less template required, more labeled probe generated.

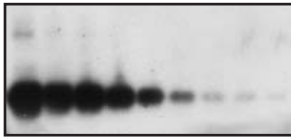
### Safety

No radioactive exposure or waste disposal concerns, no monitoring or shielding necessary.

### Accurate Probe Quantitation

Biotinylated standard allows easy optimization of probe concentration for consistent results and greatest sensitivity without background.

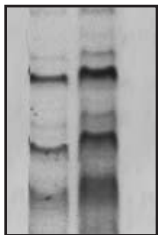
## Random Primer DNA Biotinylation Kit



83 - 0.3 pg of timp-2 gene hybridized with a biotinylated timp-2 probe labeled using the Detector Random Primer DNA Biotinylation Kit. Detected using the Detector AP Chemiluminescent Blotting Kit, 15 minute exposure.

- ◆ Biotinylated DNA in as little as 1 hour with maximum template amplification.
- ◆ Exo- Klenow Polymerase allows for longer labeling reactions without degradation of the nucleotides.
- ◆ Highly efficient labeling of DNA fragments, only 100 ng of template needed.

## PCR DNA Biotinylation Kit

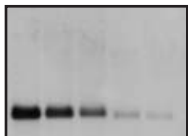


Human  $\beta$ -actin 838 bp DNA probe biotinylated with the Detector PCR Biotinylation Kit hybridized to 5 and 1  $\mu$ g human genomic DNA.

- ◆ Incorporate biotin into DNA using the polymerase chain reaction\* and your specific primers.
- ◆ Amplification and labeling of DNA in one step.
- ◆ Labeling of the sequence of interest even from crude DNA samples.
- ◆ As little as 10 pg (plasmid) or 1 ng (genomic) template DNA is efficiently labeled.

*\*Purchase of this kit does not constitute a license for PCR. A licensed polymerase and thermal cycler must be used in conjunction with this kit. PCR is covered by patents owned by Hoffmann-La Roche, Inc., and F Hoffmann-La Roche, Ltd.*

## RNA *in vitro* Transcription Biotinylation Kit



1  $\mu$ g-50 ng total RNA hybridized with a human  $\beta$ -actin RNA probe biotinylated with the Detector RNA Biotinylation Kit. Detected using the Detector HRP Chemiluminescent Blotting Kit, 10 minute exposure.

- ◆ Synthesis and labeling of RNA probes in just one step.
- ◆ Both SP6 and T7 RNA polymerases included for flexibility in transcript initiation.
- ◆  $\beta$ -Actin positive control template can be labeled and used as a control probe in hybridization assays.
- ◆ Recommended for the detection of low expressed genes where DNA probes are not adequate.

## Ordering Information

Catalog No.	Description	Size
60-01-00	Detector™ Random Primer DNA Biotinylation Kit	30 reactions
60-01-01	Detector™ PCR DNA Biotinylation Kit	30 reactions
60-01-02	Detector™ RNA <i>in vitro</i> Transcription Biotinylation Kit	20 reactions
60-00-53	Spin-Pure Filters	5 filters

To order or for more information on KPL's full line of protein and nucleic acid detection products, contact us at 800.638.3167 / 301.948.7755, FAX 301.948.0169 or visit us at [www.kpl.com](http://www.kpl.com).

ML-229-08

### Non-Radioactive Nucleic Acid Detection Kits

#### 54-30-00

Detector™ HRP Chemiluminescent Blotting Kit  
20 blots

#### 54-30-01/54-30-02

Detector™ AP Chemiluminescent Blotting Kit  
20 blots/5 blots

#### 60-03-00

DNA Detector™ Chromogenic *In Situ* Hybridization Kit  
50 samples

#### 60-05-00

DNADetector™ Fluorescent *In Situ* Hybridization Kit, CY3/DAPI  
50 samples

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