



## Highly specific detection of genetic modification events using an enzyme-linked probe hybridization chip

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**ABSTRACT.** The enzyme-linked probe hybridization chip utilizes a method based on ligase-hybridizing probe chip technology, with the principle of using thio-primers for protection against enzyme digestion, and using lambda DNA exonuclease to cut multiple PCR products obtained from the sample being tested into single-strand chains for hybridization. The 5'-end amino-labeled probe was fixed onto the aldehyde chip, and hybridized with the single-stranded PCR product, followed by addition of a fluorescent-modified probe that was then enzymatically linked with the adjacent, substrate-bound probe in order to achieve highly specific, parallel, and high-throughput detection. Specificity and sensitivity testing demonstrated that enzyme-linked probe hybridization technology could be applied to the specific detection of eight genetic modification events at the same time, with a sensitivity reaching 0.1% and the achievement of accurate, efficient, and stable results.

**Key words:** Enzyme-linked probe hybridization chip; Detection limit; Genetic modification events