

DNA/RNA Modifying Enzymes Quality Control

Overnight Assay for Nuclease Contamination

MINOTECH uses an overnight assay as a qualitative determination of enzyme purity and of a lack of nonspecific DNases. In this assay, increasing amounts of the enzyme are added to a series of tubes containing 1 µg of substrate DNA (λ DNA/*Hind* III fragments or pBR322/*Hinf* I fragments). After a 20-hours incubation under the recommended assay conditions, the characteristic banding pattern of the DNA substrate is determined by agarose gel/ethidium bromide electrophoresis. A sharp, unaltered pattern under these conditions is an indication that the enzyme preparation is free of detectable levels of nonspecific DNases. The results of the assay are reported on the Technical Data Sheet provided with each enzyme.

Assay for Nonspecific Endonucleases

The assay is performed in 50 µl of the reaction mixture, containing increasing amounts of the enzyme, its assay buffer and 1 µg of a supercoiled plasmid substrate. After a 20-hours incubation under appropriate conditions the DNA is examined for structural alterations in 1% agarose gel. The endodeoxyribonuclease activity is expressed as a percent of supercoiled DNA converted to open circular or linear form. The results of the assay are reported on the Technical Data Sheet provided with each enzyme.

Stability

The enzymes are stored at -20°C. The expiry date of the enzymes is indicated in the product Technical Data Sheet and on the vial label.

MINOTECH guarantees the maintenance of quality of DNA/RNA modifying enzymes until their respective expiry dates.