PR1MA™ β-Agarase

TBE/TAE tolerant agarase

Cut your agarose-based DNA purification time in half with PR1MA™ β-agarase!

Background

β-agarase has a high tolerance to inhibitors in electrophoretic buffers such as TBE and TAE, eliminating the need to perform a buffer exchange step before digestion.

PR1MA™ β-agarase has higher thermostability than other commercially available β-agarases, with a broad range of activity between 42˚C to 50˚C. Higher temperature digestion reduces the chances of residual agarose gelling at the end of the reaction, resulting in higher recovery of DNA or RNA.

Bulk β-Agarase is available (contact us for details at tech@midsci.com).

Application Benefits

- Complete digestion of agarose, with no agarose fragments left after the digestion
- Obtain DNA or RNA faster - no buffer exchange needed, with direct digestion in TAE or TBE
- Broad range of activity between 42˚C and 50˚C

Properties

- Concentration 1000 U/mL
- Storage buffer: 50 mM Tris-HCl, pH 7.5, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50% glycerol
- Operating Temperature: 42-50˚C
- Recommended temperature: 50˚C
- Storage temperature: -20˚C

**These products are intended for research use only, not for diagnostic use. The safety and efficacy of these products in diagnostic or other clinical uses has not been established.*

Protocol for isolation of DNA from a low melt agarose gel

Agarose digestion

1) Separate DNA by electrophoresis in a low melt agarose gel prepared in 1X TAE or 0.5X TBE and stained with ethidium bromide.
2) Cut out the desired DNA band with a scalpel or razor blade from the gel under long wavelength UV light or a blue light transilluminator, minimizing the agarose around the band.
3) Determine the weight of the slice and then cut it into smaller pieces to enhance melting.
4) Transfer the agarose pieces to a microcentrifuge tube.
5) Melt the agarose at 70˚C for 10 min.
6) Transfer the tube to 50˚C and incubate for 10 min.
7) Add 1-2 units of β-agarase for every 200 mg of agarose.
8) Mix gently and incubate at 50˚C for 60 min.

DNA precipitation

9) Adjust the salt concentration of the solution to 0.5 M NaCl, 0.3 M NaOAc or 2.5 M NH_4OAc for DNA precipitation. Mix with 2 volumes of isopropanol, mixing the solution by gently inverting the tube multiple times. Chill the tube on ice for 15 min.
10) Centrifuge at 15,000 X g for 15 min.
11) Remove the supernatant and wash the pellet with cold 80% ethanol.
12) Carefully remove the ethanol from the pellet.
13) Dry the pellet at 50˚C for 5-10 min with the cap open.
14) Resuspend the DNA pellet in an appropriate volume of TE buffer or low TE buffer.