

## SEQUENCE LISTING

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19

What is claimed is:

**1.** A method for enzymatically amplifying a target nucleic acid or a fragment thereof, comprising

- (a) providing a nucleic acid amplification reaction mixture that comprises (i) a target nucleic acid, and (ii) gellan at a concentration above 0.005 wt % based on the weight of water; and  
 (b) subjecting the nucleic acid amplification reaction mixture of (a) to conditions suitable for amplifying the target nucleic acid or a fragment thereof, whereby the target nucleic acid or the fragment thereof is amplified.

**2.** The method according to claim 1 wherein the amplification reaction mixture comprises gellan at a concentration above 0.01 wt % based on the weight of water.

**3.** The method according to claim 1 wherein the amplification reaction mixture comprises gellan at a concentration above 0.05 wt % based on the weight of water.

**4.** The method according to claim 1 wherein the amplification reaction mixture comprises gellan at a concentration above 0.1 wt % based on the weight of water.

**5.** The method according to claim 1 wherein the amplification reaction mixture comprises gellan at a concentration above 0.125 wt % based on the weight of water.

**6.** The method according to claim 1 wherein the amplification reaction mixture comprises gellan at a concentration above 0.15 wt % based on the weight of water.

**7.** In a method for enzymatically amplifying nucleic acid, the improvement comprising performing the enzymatic amplification in the presence of gellan or gellan fragments at a concentration of at least 0.005 wt % based on the weight of water.

**8.** A method for enzymatically amplifying a target nucleic acid or a fragment thereof, comprising

- (a) providing a nucleic acid amplification reaction mixture having a water-based liquid phase and a gellan gel matrix phase, wherein the liquid phase comprises a target nucleic acid and is entrapped in the gel matrix phase; and (b) subjecting the reaction mixture to conditions suitable for amplifying the target nucleic acid or a fragment thereof, whereby the target nucleic acid or the fragment thereof is amplified.

**9.** The method according to claim 8 wherein the gellan is intact.

**10.** The method according to claim 8 wherein the gellan is digested into small fragments.

**11.** The method according to claim 8 wherein the reaction mixture comprises at least 220 molecules of the target nucleic acid.

**12.** The method according to claim 8 wherein the reaction mixture comprises at least 2000 molecules of the target nucleic acid.

**13.** The method according to claim 8, wherein said gel matrix comprises less than 0.01 % wt nucleic acid other than the target nucleic acid based on the weight of the gellan.

**14.** The method according to claim 8 wherein the target nucleic acid or a fragment thereof is amplified using a method selected from the group consisting of PCR, LCR, TAS, NASBA, 3SR, RACE, and one-sided PCR.

**15.** The method according to claim 8 further comprising isolating the target nucleic acid from cells grown on gellan-containing medium.

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