5. The method of any one of claims 1-4, comprising passing the challenge solution through the microporous membrane at a constant flow rate.

6. The method of any one of claims 1-4, comprising passing the challenge solution through the microporous membrane at a constant pressure.

7. The method of any one of claims 1-6, wherein (c) and (d) comprise using a device comprising a rotatable circular cartridge having a plurality of reaction chambers, and a reservoir, the reaction chambers being connected to the reservoir via channels, wherein at least a portion of the reaction chambers comprise primers; and a heating plate having at least two distinct zones that can be heated to at least two different temperatures, the method comprising:

at least partially filling the reservoir with a fluid containing dendrimer conjugates and PCR reagents for carrying out an amplification reaction, with the exception of primers;

distributing the fluid to the reaction chambers comprising the primers therein; and,

rotating the rotatable circular cartridge to successively bring the contents of each reaction chamber to the at least two temperatures defined by the at least two distinct zones of the heating plate, wherein the single-stranded DNA is amplified.

8. The method of claim 7, wherein the heating plate has at least three distinct zones that can be heated to at least three different temperatures, and the method includes rotating the rotatable circular cartridge to successively bring the contents of each reaction chamber to the at least three temperatures defined by the at least three distinct zones of the heating plate.

9. The method of claim 7 or 8, wherein at least a portion of the reaction chambers comprise probes in addition to the primers.

10. A kit for determining retention level and/or pore structure of a membrane comprising:

a solution comprising a plurality of dendrimers conjugated to single-stranded DNA, having a ratio of single-stranded DNA to dendrimer of 1:1; a rotatable circular cartridge having a plurality of reaction chambers containing dried primers,