

DNase / RNase Certification



AHN Biotechnologie Top-line pipette tips and filter tips, micro-tubes, spin columns, cryotubes and PCR-tubes/strips, filter tubes and filter microplates have been tested and are certified free of DNase or RNase contamination. Also free of human DNA, pyrogene and free of PCR-inhibitors. All products are injection moulded under clean room environments according to US-Fed. Std. 209, class 1.000.000 and German DIN-VDI Standard 2083, which ensures the integrity of all AHN tips and plastic products.

DNase Test Procedure

Sample tubes/tips/plates are pipetted with 60 µl sterile water and vortexed before being briefly spun down. The water from the first tube/tip is then transferred to the second. This procedure is repeated until the water has been exposed to all tubes/tips of the sample batch except the final one. 32 µl from the penultimate tube/tip is transferred to the last tube/tip/plate where 8 µl of magnesium chloride solution and 5 µl of plasmid DNA are added. The tube/tip is left to incubate at 37°Celsius for 2 hours with a negative and three positive quantified controls. 1 µl EDTA is then added to each tube/tip/plate to stop the reaction. The plasmid DNA mixture is then analysed on a 1.5% agarose gel. The incubated controls are run in parallel. The agarose gel is then stained using ethidium bromide. DNase contamination is indicated by a brighter band corresponding to the relaxed form of the plasmid, where the plasmid DNA has been nicked by DNases present. For samples to pass the certification, the relative intensities of the supercoiled and relaxed plasmid DNA bands from solutions exposed to the batch samples must correspond to the negative control.

RNase Test Procedure

Sample tubes/tips/plates are pipetted with 60 µl reaction buffer and vortexed before being briefly spun down. The reaction buffer from the first tube/tip is then transferred to the second. This procedure is repeated until the reaction buffer has been exposed to all tubes/tips of the sample batch except the final one. 40 µl from the penultimate tube/tip/plate are transferred to the last tube/tip and 5 µl of tRNA is added. The tube is left to incubate at 37°Celsius for 2 hours with a negative and three quantified positive controls. The tRNA mixture is then analysed on a 4 % agarose gel. The incubated controls are run in parallel. The agarose gel is then stained using ethidium bromide. RNase contamination is indicated by a smear, where the tRNA has been degraded by RNases present. For samples to pass the certification, the tRNA band from solutions exposed to the batch samples must be intact with no signs of smearing.

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