

**NEW**

## M-SAN High Quality

M-SAN HQ is the latest addition to our nuclease portfolio. M-SAN is a novel product designed for optimal performance at physiological conditions. The biochemical properties of the SAN family of nucleases make them ideal for multiple bioprocessing and biomanufacturing workflows (Table 1).

M-SAN HQ has been developed to offer the optimal solution for removal of nucleic acids at the near-physiological conditions used in many bioprocessing and biomanufacturing workflows. This novel, nonspecific endonuclease is active over a broad pH range and displays optimum activity at salt concentrations around 175 mM (Figure 1 & 2).

Table 1: Comparison of optimal pH and salt ranges for M-SAN HQ and SAN HQ.

	M-SAN HQ	SAN HQ
pH	7.2 - 8.7	8.5 - 9.5
[NaCl]	125 - 250 mM	400 - 600 mM

### M-SAN has a broad pH working range

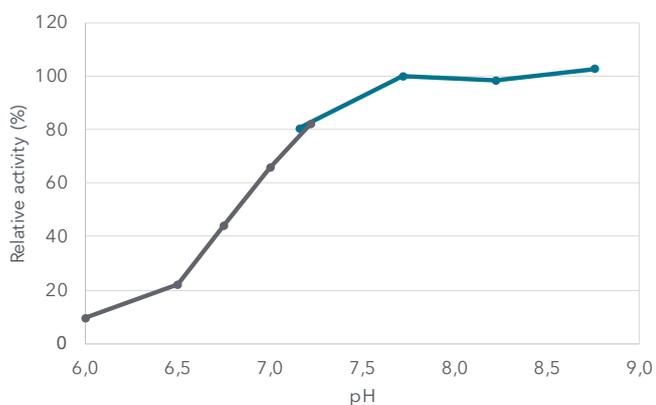


Figure 1. M-SAN HQ has high activity over a broad pH range. Activity ( $\Delta\text{Abs}_{260}$ ) was measured at 37°C in 25 mM Tris-HCl (blue) or 25 mM Bis-Tris (gray), 150 mM NaCl, 2.5 mM  $\text{MgCl}_2$ , 50  $\mu\text{g/ml}$  calf thymus DNA.

### M-SAN show high activity at physiological salt-concentrations

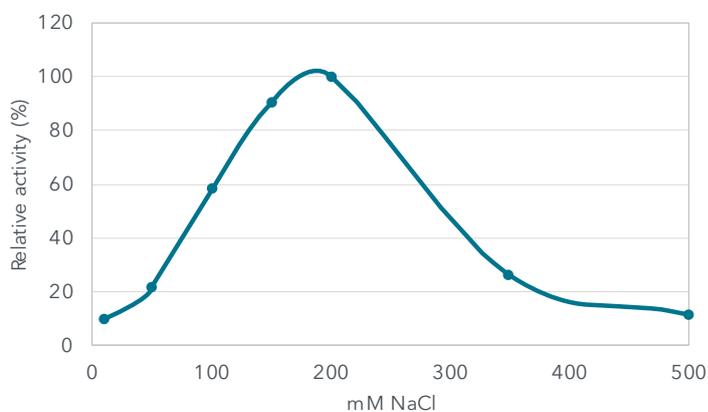
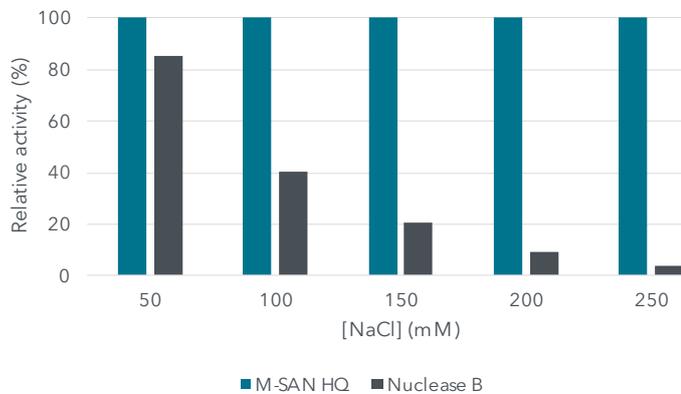


Figure 2. M-SAN HQ has high activity in the 125 - 250 mM salt range. Activity was measured at 37°C in 25 mM Tris-HCl pH 7.4 @ 37°C, 2.5 mM  $\text{MgCl}_2$ , 50  $\mu\text{g/ml}$  calf thymus DNA.

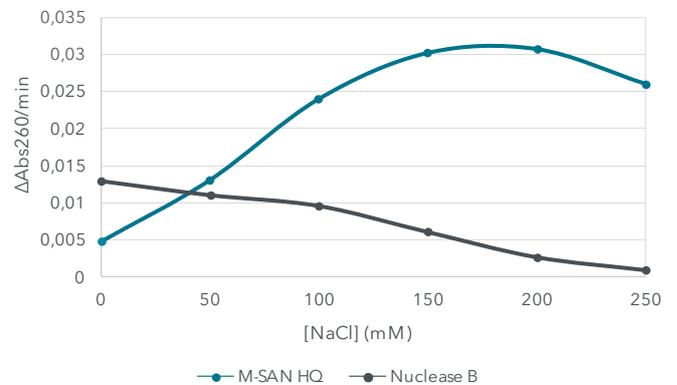
The majority of commercially available nucleases display limited performance at salt concentrations and pHs typically used in cell cultures. This can now be overcome by using ArcticZymes M-SAN HQ where these conditions are close to the optimal range, reducing additional steps in the workflows and thus increase efficiency and tility of the enzyme (Figure 3 & 4 next page).

**M-SAN HQ and SAN HQ cover different ranges of salt and pH, thus providing an optimal solution for every condition.**

### M-SAN HQ performance relative to competitor nuclease



### M-SAN HQ outperforms competitor at physiological salt



**Figure 3.** Activity of M-SAN HQ relative to a competitor nuclease. Equal amounts (as per manufacturers unit definition) of M-SAN HQ and Nuclease B was tested at various NaCl concentrations in 25 mM Tris-HCl pH 7.2 @ 37°C, 5 mM MgCl<sub>2</sub>, 50 µg/ml calf thymus DNA. Values are expressed as relative activities compared to M-SAN HQ.

**Figure 4.** Activity of M-SAN HQ compared to a competitor nuclease. Activity was measured in 25 mM Tris-HCl pH 7.2 @ 37°C, 5 mM MgCl<sub>2</sub>, 50 µg/ml calf thymus DNA, expressed as ΔAbs<sub>260</sub>/min.

### Product information

ArcticZymes understands and values the need to quickly mobilize products for commercial partners. We offer the convenience of providing standard bulk enzymes as off the shelf products. In addition, ArcticZymes offers our enzymes in customized formats. Please contact us for additional information.

### Ordering information

Product name	Catalogue #	Concentration	Size	Units
M-SAN HQ 25-25kU	70950-202	25 - 30 U/µl	1 ml	25 kU
M-SAN HQ >250-500kU	70950-150	>250 U/µl		500 kU
M-SAN HQ 5MU	70950-160	>250 U/µl		5 MU
M-SAN HQ custom	70950-100	Per agreement	Per agreement	Per agreement

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