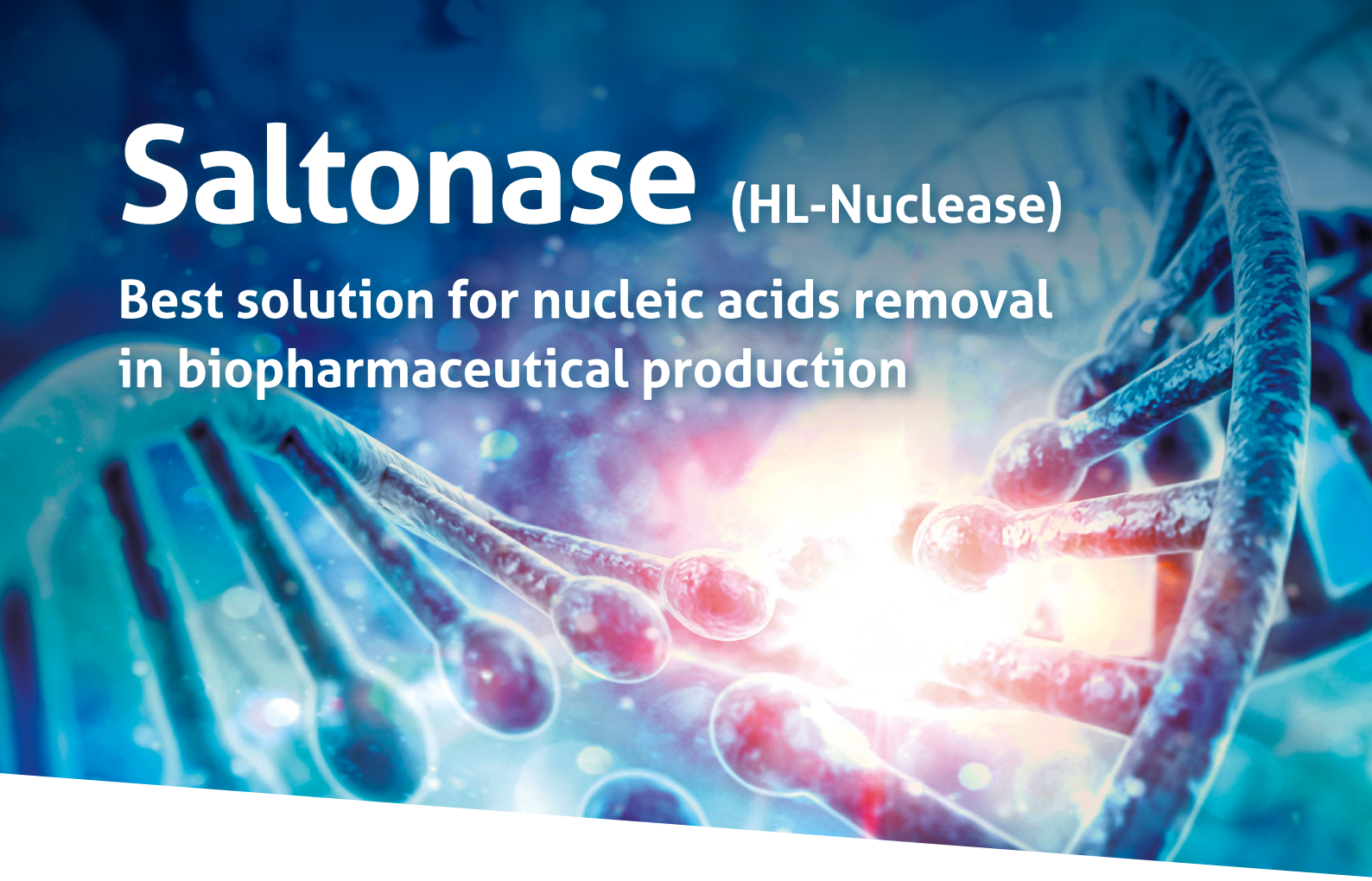


# Saltonase (HL-Nuclease)

## Best solution for nucleic acids removal in biopharmaceutical production

- → **Low-temperature activity** to decrease production costs and protect your product.
- → **Designed for difficult-condition applications** like high salt concentration, presence of detergents and other bio-processing additives.
- → **Efficient nucleic acid digestion** in most demanding purification buffer systems.
- → **Irreversible inactivation at low temperature** (52°C) to secure biological products integrity.

### APPLICATION BY AREA

- ✓ **Pharma:** personal medicine/drug product developers: viral vector production for gene and CAR-T therapies, primary cells isolation, exosome-based therapeutics, mAbs purification.
- ✓ **Diagnostics:** manufacturers of recombinant enzymes, reagents and kits.
- ✓ **CDMO / CMO:** Protein purification, process development.

## Overview

**Saltonase** is a cold-active, heat-labile endonuclease produced in Escherichia coli. The enzyme originates from the psychrophilic bacterium and has non-specific endonucleolytic activity towards dsDNA, ssDNA and RNA (at similar efficacy). Saltonase cleaves nucleic acids (NA) to fragments below 10 nucleotides (nt). It remains active even at 0°C and in a high salt content environment. It is particularly appplicable for removing contaminating nucleic acids during purification of different proteins in laboratory and manufacturing workflows. Saltonase is produced with the use of animal origin-free materials.

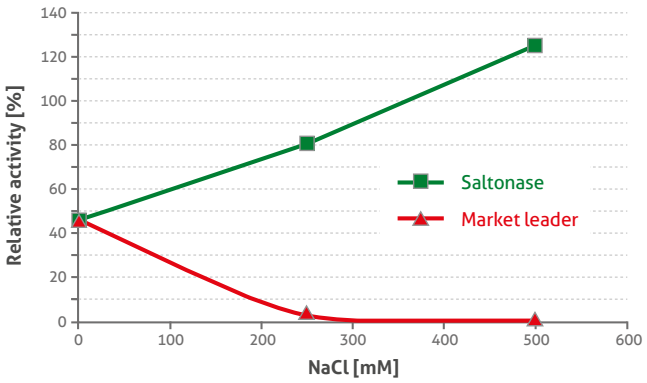
## Applications

- → Purification of biologics from residual NA in Pharma manufacturing.
- → Removal of chromatin during viral vector isolation, primary cells isolation, biopharma and bioprocessing procedures.
- → Purification of recombinant proteins & enzymes for research and diagnostic use from contaminating genomic DNA & RNA.
- → Reduction of viscosity in biological samples, limitation of cell clumping during the preparation of chimeric cell mixtures.

## Features and advantages

- → Active in the broad range of temperatures (6–45°C) and pH (6,5–10).
- → Extreme nuclease activity in solutions at high salt concentration (0–1.4 M NaCl or KCl) compared to the competition – Fig. 1, 2.
- → Highly active in typical buffers and additives used in bioprocesses – Fig. 2, 3.
- → Thermal inactivation at lower temperature compared to other nucleases (15 min. at 52°C and 1 mM DTT).

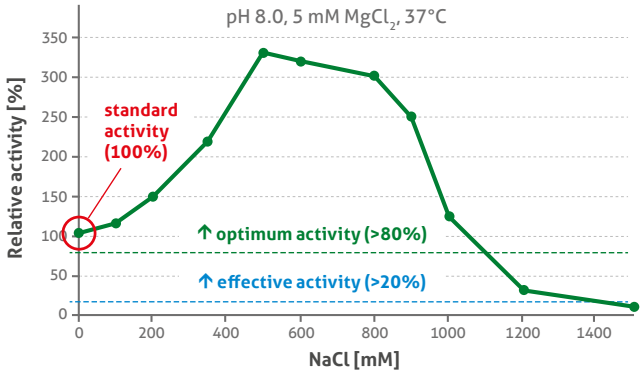
***Fig. 1. The relative activity of Saltonase compared to a market leader***




- ✓ Saltonase **outperforms** a market leader in the presence of $Na^+$ ions.
- ✓ A market leader is **completely inactive** at salt concetrations over 250 mM.

***Test conditions:***
*50 mM Tris-HCl ph 8.0, temp. 22°C, 20 mM $MgCl_2$ (5 mM $MgCl_2$ for market leader)*

***Fig. 2. Activity at different $Na^+$ ions concentrations – high salt content significantly increase efficiency of protein or viral purification***




- ✓ Saltonase is active (over 20% activity) in a broad range of salt concentrations (0–1400 mM).
- ✓ Optimum Activity (over 80% activity) in 0–1100 mM of NaCl.
- ✓ Maximum activity in 500 mM of NaCl (330% of Standard Activity).

| Additives | Tolerance level range |
|---|---|
| NaCl / KCl | 0–1.4 M |
| Urea | 0–6.0 M |
| Imidazole | 0–0.4 M |
| Ammonium sulfate | 0–0.2 M |
| Triton X-100 | 0–15% |

***Fig. 3. Tolerance to most popular purification buffer additives. BLIRT's Saltonase retains its activity in the broad range of listed addititives concentration.***

- ✓ Saltonase retains activity in a broad range of listed additives concentrations (excluding SDS).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