PRODUCT DESCRIPTION

J.T.Baker® Endonuclease Biotech Reagent is a cGMP product, designed for the degradation of both single stranded and double stranded DNA and RNA. J.T. Baker® Endonuclease is an enzyme based upon the native endonuclease of *Serratia marcescens*, enabling rapid clearance of residual DNA and RNA (Meiss, 1995) during the production and purification of both recombinant proteins and viral vectors. In AAV vector bioprocessing, J.T. Baker® Endonuclease has been shown to retain enzymatic activity in the presence of J.T. Baker® Cell Lysis Solution, enabling robust and efficient cell lysis and DNA/RNA degradation in a single step.

For most rAAV production processes, J.T.Baker® Endonuclease solution can be added to lysed cellular contents at a target concentration of 25 – 100 U/ml in combination with 2mM Magnesium Chloride Hexahydrate, VWR part number JT2449, at 37°C and pH range of 8.0 – 9.0. J.T.Baker® Endonuclease clearance can be quantified using commercially available CYGNUS EndonucleaseGTP®-F960 ELISA Kit, VWR part number MSPP-F960. **Refer to Elisa kit through link:** ELISA KIT ENDONUCLEASE GTP | VWR

SPECIFICATIONS

Table 1: Product information and specifications

Part Number	Unit of measure	Storage	Test/Specifications
BAKRGT20-05	25 KU	At or below -20°C	Purity by HPLC — ≥ 99% Appearance — Clear, colorless Identification — Passes Test Activity — ≥ 250 Units/µL Specific Activity — ≥ 1.1 x 10^6 Units/mg Endotoxin — ≤ 0.25 EU/1000 Units Total Aerobic Microbial Count — ≤ 10 CFU/100,000 Units Total Yeast and Mold Count — ≤ 10 CFU/100,000 Units Protease — None detected.
BAKRGT20-10	100 KU		
BAKRGT20-25	500 KU		
BAKRGT20-40	1,250 KU		
BAKRGT20-50	5,000 KU		
BAKRGT20-62	12,500 KU		
BAKRGT20-80	25,000 KU		
BAKRGT20-K1	5,000 KU		
BAKRGT20-K2	12,500 KU		
BAKRGT20-K3	25,000 KU		

CHEMICAL COMPOSITION

J.T. Baker® Endonuclease is a chemically defined reagent. This solution is composed of the following chemicals in Table 2.

Table 2: Chemical composition of J.T.Baker® Endonuclease

Component	CAS number	Target concentration
WFI grade water	7732-18-5	N/A
Magnesium Chloride Hexahydrate	7791-18-6	2 mM
Tromethamine (Tris)	77-86-1	20 mM
Sodium Chloride	7647-14-5	20 mM
Glycerin	56-81-5	50% (v/v)
Endonuclease	9025-65-4	>250 U/µL

MANUFACTURING PROCESS

Avantor J.T.Baker® Endonuclease is recombinantly produced using *E. coli* and subsequently purified. The purified enzyme is then formulated using the composition listed above and 0.2 µm filter to provide a final product that is consistent with product specifications suitable for use in biopharmaceutical manufacturing applications. J.T.Baker® Endonuclease is non-animal derived/origin, manufactured from raw materials that contain no animal parts, products, and/or by-products nor does it come in contact with animal parts, products, and/or by-products. Up to date specifications, actual certificate of analysis, and safety data sheet can be obtained at avantorsciences.com.

References

Meiss, G. F. (1995). Sequence preferences in cleavage of dsDNA and ssDNA by the extracellular Serratia marcescens endonuclease. *Biochemistry*, 34 - 37.

Visit Biopharma solutions | Avantor (avantorsciences.com) for additional information on Avantor™ J.T. Baker® Workflow Solutions for monoclonal antibody processes.