IVT mRNA QC Toolkit

T7 RNA Polymerase ELISA Kit

Product Overview

Accurate detection of residual T7 RNA Polymerase is critical for mRNA drug safety. Our ELISA kit offers high-sensitivity quantification of T7 enzyme in IVT workflows, helping you meet regulatory standards and ensure product purity.

Principle of Assay

A sandwich ELISA captures T7 RNA Polymerase using a monoclonal antibody. After binding, an HRP-conjugated detection antibody triggers a colorimetric signal at 450 nm. Results are compared to a standard curve for precise quantification.

- **Platform:**

Pre-coated 96 Microplate (12 x 8 well strips)

- **Sensitivity:**

Limit of detection (LoD): 0.037 ng/mL

Limit of quantification (LoQ): 0.124 ng/mL.

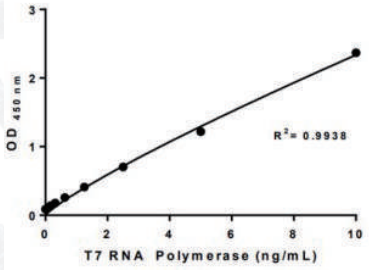
- **Detection Range:**

0.15625-10 ng/mL

- **Reactivity:**

T7 RNA Polymerase

Standard	T7 RNA Polymerase concentration (ng/mL)	$OD_{450\ nm}$	
1	10	2.411	2.328
2	5	1.23	1.209
3	2.5	0.701	0.705
4	1.25	0.413	0.409
5	0.625	0.26	0.256
6	0.3125	0.184	0.175
7	0.15625	0.143	0.132
Blank	Blank	0.09	0.088

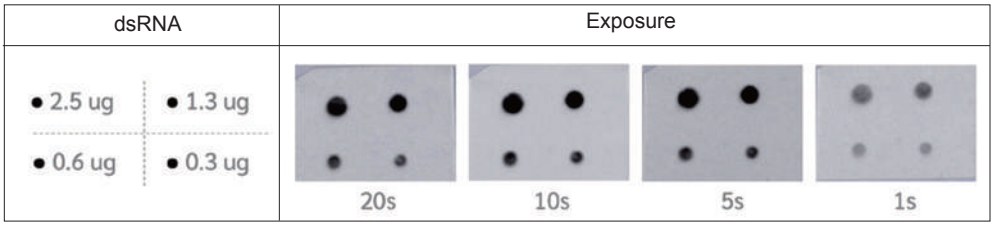


Features High Sensitivity | High Specificity | Excellent Stability

Anti-dsRNA antibody [clone J2]

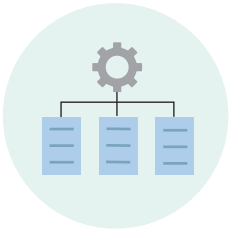
Why dsRNA Detection Matters?

When developing IVT mRNA-based therapies or vaccines, high-quality and purity in vitro transcribed mRNA is of the utmost importance. Double-stranded RNA (dsRNA) impurities are one of the extremely concerning byproducts because they would inhibit the synthesis of the antigen protein and trigger an unfavorable immunological response.



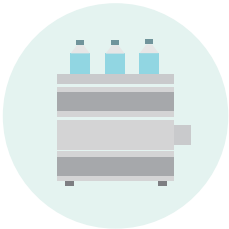
Key Applications of the mRNA QC Toolkit

Residual Enzyme Detection in IVT mRNA Production



Standardized QC Workflow for RNA Therapeutics

Applicable from R&D to GMP-Scale Manufacturing



Assess RNA Purification Efficiency in Research or CRO Settings

Cat#	Product	Package
C13004-K01	T7 RNA Polymerase ELISA Kit	96 well
C15039-200UG	Anti-dsRNA antibody [clone J2]	200 ug