

## Certificate of Analysis

Product name	Bulk of Matuzumab	
Batch No.	TM-Matu-03272018	
Expire Date	2020-02	
Storage condition	Sealed and stored at $-70\pm 15$ °C for long term storage and $2-8$ °C for short term storage (< 1 months)	
Test items	Quality standard	Results
1. pH value	Corresponds to reference standard	Pass
2. Purity		
2.1 Reduced CE-SDS	Heavy chain and light chain NLT 95.0%	99.3%
2.2 Non-reduced CE-SDS	Corresponds to reference standard	Pass
2.3 SEC-HPLC	Main peak NLS 95.0%	99.9%
3. Isoelectric Point	Corresponds to reference standard	Pass
4. Bacterial Endotoxins Test	$\leq 0.125$ EU/mg	Pass
5. Ultraviolet Spectra Scanning	$278\pm 3$ nm	278nm
6. Residual Proteins of Host Cell	$\leq 100$ ppm	7
7. Exogenous Residual DNA	$\leq 100$ pg/mg	1
8. Residual protein A	$\leq 100$ ppm	1
9. Biological Activity	Compared with standard, the range of biological activity is from 80% to 125%.	107%
10. Osmolality	Corresponds to reference standard	Pass
11. Peptide mapping	Corresponds to reference standard	Pass
12. N-terminal sequence	Corresponds to reference standard	Pass

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