

PT. Kromtekindo Utama

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Certificate of Qualification

This is to certify that the stated instrument has been successfully
passed all qualification tests

Issued for : PT Mersifarma Tirmaku Mercusana
Diterbitkan untuk : Jl. Raya Jakarta-Bogor
Cisalak, Depok

Date of Qualification : November 10, 2025
Tanggal Kualifikasi

Performer : Yudi Rosmanto
Pelaksana

Instrument Identification : RD LC 05 UV
Identifikasi Instrumen

Instrument Name	Model Number	Serial Number
Pump	e2695	J22SM4760A
Injector	e2695	J22SM4760A
Column Heater/Cooler	SMC	K22SMC738G
Sample Heater/Cooler	SHC	J22SHC669A
Detector	2489	M2287E799A
Data System Software	Empower 3 Software	N/A

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Jakarta, November 17, 2025

Performed by,

Yudi Rosmanto
Technical Support

Qualification Results

Instrument Name	Model Number	Serial Number
Pump	e2695	J22SM4760A
Injector	e2695	J22SM4760A
Column Heater/Cooler	SMC	K22SMC738G
Sample Heater/Cooler	SHC	J22SHC669A
Detector	2489	M2287E799A
Data System Software	Empower 3	N/A

Performance Under Test	Results	Acceptable Range	Status
Pump Flowrate Accuracy Test			
- 1.0 ml/min	10 min 01 sec	10 min $\pm$ 18 sec	Passed
- 0.5 ml/min	10 min 03 sec	10 min $\pm$ 36 sec	Passed
GPV Accuracy Test	0.1 %	< 0.5 %	Passed
Injection Volume Accuracy Test	49.4 μ L	50 $\pm$ 1 μ L	Passed
Column Heater/Cooler Temperature Accuracy Test	40.2 $^{\circ}$ C	40 $\pm$ 3 $^{\circ}$ C	Passed
Sample Heater/Cooler Temperature Accuracy Test	16.4 $^{\circ}$ C	15 $\pm$ 4 $^{\circ}$ C	Passed
UV/Vis 2489			
Detector Wavelength Accuracy Test	256 nm 378 nm 520 nm	255 $\pm$ 2 nm 379 $\pm$ 2 nm 522 $\pm$ 2 nm	Passed Passed Passed
Detector Linearity Test	2.1 %	< 4.5 %	Passed
Overall System Performance:			
- Retention Time %RSD	0.1 %	$\leq$ 1.0 %	Passed
- Area %RSD	0.1 %	$\leq$ 1.0 %	Passed
Injection Volume Linearity Test	0.9999	$\geq$ 0.9990	Passed