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Certificate of Preparation

Analyte Origin Information

Analyte Name: Papaverine hydrochloride

Lot Number: 107H4642

Vendor: Sigma-Aldrich

Vendor Number: P3510-5G

% Purity: ≥98%

Form: Powder

Preparation Information

Product Description: LCMS-8045/8050/8060 : Papaverine (1.0, 5.0, 10.0, 50.0, 100 pg/µL) for IQ/OQ linearity test

Part Number: 225-12238-04

Manufacture Date: 02/28/2022

Lot Number: PAEB0010

Expiration Date: 02/28/2024

The standard sample (10 ng/µL) was gravimetrically prepared and then diluted volumetrically to the desired concentration. Additional standards were prepared through serial dilution.

Standard	Grams	Stock Volume	Final Volume
10 ng/µL	10.20mg	—	1000 mL
5.0 ng/µL	—	50 mL of 10 ng/µL	100 mL
1.0 ng/µL	—	20 mL of 5.0 ng/µL	100 mL
0.5 ng/µL	—	50 mL of 1.0 ng/µL	100 mL
100 pg/µL	—	20 mL of 0.5 ng/µL	100 mL
50.0 pg/µL	—	50 mL of 100 pg/µL	100 mL
10.0 pg/µL	—	20 mL of 50.0 pg/µL	100 mL
5.0 pg/µL	—	50 mL of 10.0 pg/µL	100 mL
1.0 pg/µL	—	20 mL of 5.0 pg/µL	100 mL

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Certificate of Preparation

Lot Number: PAEB0010

Reagent/Instrument	Type	Manufacture
Water	LCMS Grade Water Lot#EC247-B-US	Honeywell
Volumetric glassware	1000 mL Volumetric flask, Class A	Pyrex
Volumetric glassware	100 mL Volumetric flask X 8, Class A	Pyrex
Volumetric glassware	50 mL Transfer Pipets X 3, Class A	Pyrex
Volumetric glassware	20 mL Transfer Pipets X 3, Class A	Pyrex
Electronic Balance	AUW220D (See attached Certificate of Calibration)	Shimadzu

Signature of Preparer_____Kathleen Luo _____
(Kathleen Luo, LCMS Product Specialist)

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Certificate of Analysis

FOR LABORATORY USE ONLY – READ MSDS PRIOR TO USE.

Description:	LCMS-8045/8050/8060 : Papaverine (1.0, 5.0, 10.0, 50.0, 100 pg/µL) for IQ/OQ linearity test		
Part No.:	225-12238-04	**Lot No.:**	PAEB0010
Expiration Date:	02/28/2024	**Storage:**	Refrigerate

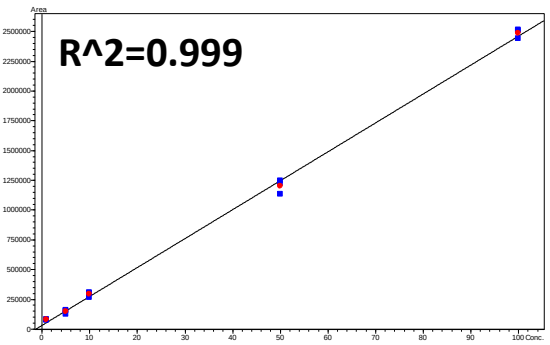
HPLC Conditions

Column:	ShimPack XR ODS (50 mm x 3 mm) P/N 228-41606-92
Flow Rate:	0.5 mL/min
Mobile Phase A:	Water 0.1% formic acid
Mobile Phase B:	Methanol
Mobile Phase Composition:	70:30
Injection Amount:	1 µL
Column Temperature:	40 °C
Flow Conditions:	Isocratic
Dwell Time:	627 msec

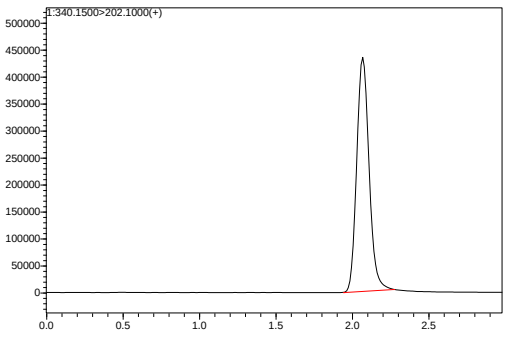
MS Conditions

Analysis Mode:	MRM, positive ESI
Transition (*m/z*):	340.15 → 202.10
Collision Energy:	-26 V
DL Temperature:	250 °C
Block Temp:	400 °C
Nebulizer Gas Flow:	3.0 L/min
Drying Gas Flow	10.0 L/min
Heating Gas Flow	10.0 L/min
Interface Temp:	300 °C

Calibration Curve



Total Ion Chromatogram of Papaverine



Signature of Analyst_____*Kathleen Luo*_____ Date Passed_____03/02/2022_____

(Kathleen Luo, LCMS Product Specialist)