

21-18935  
ZHMB

# 23621  
SEP 15 2021  
EB 14:22

**CERTIFICATE OF ANALYSIS**



**Calcium 3-Hydroxy 3-Methyl Butyrate(HMB), Monohydrate**

Item No.	HM8001	Mfg Date	Aug.02,2021
Lot No.	HM20210802	Retest Date	Aug.01,2024

Item	Method	Specification	Results
<b>Physical Properties</b>	Appearance	Visual	White powder
	Bulk Density	USP<616>	NLT 0.55 g/ml
	Tap Density	USP<616>	NMT 0.90 g/ml
	Particle Size	USP<786>	100% through USS#20 (850 micron)
<b>Analytical</b>	CaHMB	HPLC	98.0-103.0%
	HMB	HPLC	77.0-82.0%
	Dimethylacrylic acid	HPLC	NMT 150 ppm
	Calcium (Ca <sup>2+</sup> )	USP<541>	13.0-15.0%
	Acetate	HPLC	NMT 1.0%
	Moisture	USP<921 I>	5.0-7.5%
	Arsenic (As)	USP<730>/USP<852>	NMT 1.00 ppm
	Lead (Pb)	USP<730>/USP<852>	NMT 1.00 ppm
<b>Microbial</b>	Total Aerobic	USP<61>	NMT 1,000cfu/g
	Yeast & Mold	USP<61>	NMT 100cfu/g
	<i>E. coli</i>	USP<62>	Negative
	<i>Salmonella</i>	USP<62>	Negative

Prepared by Japing Diao

Approved by Shan Liu Date Aug. 18, 2021  
Quality Manager  
TSI Group Co., Ltd.

Manufacturer: Jiangyin TSI Pharmaceutical Co., Ltd.  
Manufacturer Address: 2 Jinxu Road, Shizhuang, Huangtu Town, Jiangyin, Jiangsu Province, China

**REVIEWED**

QA/QC EB Date 9/15/2021

John C. Fuller, Jr.

Date: 21-Aug-2021

John C. Fuller, Jr., PhD, Metabolic Technologies, LLC



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Client Code: QD0001073  
PO#: L4330

Received On: 17Sep2021  
Reported On: 01Oct2021

### ANALYTICAL REPORT

AR-21-QD-192619-01



<b>Eurofins Sample Code:</b> 464-2021-09160255	<b>Sample Registration Date:</b> 17Sep2021
<b>Client Sample Code:</b> ZHMB 21-18935	<b>Condition Upon Receipt:</b> acceptable, non-perishable
<b>Sample Description:</b> HMB	<b>Sample Reference:</b>

M906K - Calcium HMB	Reference	Dry Basis	Completed	Sub
	Internal method		30Sep2021	1
<b>Parameter</b>	<b>Result</b>	<b>Dry Basis</b>		
Calcium HMB Monohydrate (calculated from Ca-HMB)	98.2 %	107 %		
Calcium Hydroxy-3-Methylbutyrate	92.1 %	101 %		

QD06Q - Arsenic (Mwd-ICP-MS)	Reference	Accreditation	Completed
	J. AOAC vol. 90 (2007) 844-856 (Mod)	ISO/IEC 17025:2017 A2LA 2927.01	23Sep2021
<b>Parameter</b>	<b>Result</b>	<b>Dry Basis</b>	
Arsenic (As)	0.112 ppm	0.122 ppm	

QD06R - Mercury (Mwd-ICP-MS, Most Matrices)	Reference	Accreditation	Completed
	J. AOAC vol. 90 (2007) 844-856 (Mod)	ISO/IEC 17025:2017 A2LA 2927.01	23Sep2021
<b>Parameter</b>	<b>Result</b>	<b>Dry Basis</b>	
Mercury (Hg)	<0.010 ppm	<0.011 ppm	

QD06S - Lead (Mwd-ICP-MS)	Reference	Accreditation	Completed
	J. AOAC vol. 90 (2007) 844-856 (Mod)	ISO/IEC 17025:2017 A2LA 2927.01	23Sep2021
<b>Parameter</b>	<b>Result</b>	<b>Dry Basis</b>	
Lead (Pb)	0.027 ppm	0.030 ppm	

QD06T - Cadmium (Mwd-ICP-MS)	Reference	Accreditation	Completed
	J. AOAC vol. 90 (2007) 844-856 (Mod)	ISO/IEC 17025:2017 A2LA 2927.01	23Sep2021
<b>Parameter</b>	<b>Result</b>	<b>Dry Basis</b>	

# ANALYTICAL REPORT

AR-21-QD-192619-01

Client Code: QD0001073

PO#: L4330

Received On: 17Sep2021

Reported On: 01Oct2021

**Eurofins Sample Code:** 464-2021-09160255

**Sample Registration Date:** 17Sep2021

**Client Sample Code:** ZHMB 21-18935

**Condition Upon Receipt:** acceptable, non-perishable

**Sample Description:** HMB

**Sample Reference:**

**QD06T - Cadmium (Mwd-ICP-MS)**

**Reference**

J. AOAC vol. 90 (2007) 844-856 (Mod)

**Accreditation**

ISO/IEC 17025:2017

A2LA 2927.01

**Completed**

23Sep2021

**Parameter**

Cadmium (Cd)

**Result**

<0.010 ppm

**Dry Basis**

<0.011 ppm

**QD148 - Moisture by Vacuum Oven**

**Reference**

AOAC 925.09

**Accreditation**

ISO/IEC 17025:2017

A2LA 2927.01

**Completed**

23Sep2021

**Parameter**

Moisture and Volatiles - Vacuum Oven

**Result**

8.4 %

**Dry Basis**

Subcontracting partners:

1 - Eurofins Botanical Testing US Brea, CA

Respectfully Submitted,



David Gross

Support Services Manager

Results shown in this report relate solely to the item submitted for analysis. | Any opinions/interpretations expressed on this report are given independent of the laboratory's scope of accreditation. | All results are reported on an "As Received" basis unless otherwise stated. | Reports shall not be reproduced except in full without written permission of Eurofins Scientific, Inc. | All work done in accordance with Eurofins General Terms and Conditions of Sale: [www.eurofinsus.com/terms\\_and\\_conditions.pdf](http://www.eurofinsus.com/terms_and_conditions.pdf) | v Indicates a subcontract test to a different lab. Lab(s) are listed at end of the report. For further details about the performing labs please contact your customer service contact at Eurofins. Measurement of uncertainty can be obtained upon request.