

REPORT NUMBER

15-205-4089REPORT DATE
Jul 24, 2015
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2627513611 "B" Street • Omaha, Nebraska 68144-3693 • (402) 334-7770 • FAX (402) 334-9121
www.midwestlabs.com**PAGE 1/4**ISSUE DATE
Jul 24, 2015**THUNDER NUTRITION
244 E AVE K10 #107
LANCASTER CA 93535****REPORT OF ANALYSIS**For: (26275) THUNDER NUTRITION LEADING
LEADING COMPETITOR PRODUCT ANALYSIS #1

Analysis	Level Found		Reporting		Analyst- Date	Verified- Date
	As Received	Units	Limit	Method		
Sample ID: #1	Lab Number: 2419450					
Aspartic acid	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Threonine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Serine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Glutamic acid	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Proline	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Glycine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Alanine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Cystine	n.d.	%	0.01	AOAC 994.12 (Alt. I) *	jjd8-2015/07/22	tjp8-2015/07/24
Valine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Methionine	n.d.	%	0.01	AOAC 994.12 (Alt. I) *	jjd8-2015/07/22	tjp8-2015/07/24
Isoleucine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Leucine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Tyrosine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Phenylalanine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Lysine (total)	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Histidine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Arginine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Tryptophan	n.d.	%	0.01	AOAC 988.15 (mod) *	jjd8-2015/07/23	tjp8-2015/07/24
Protein	0.4	%	0.1	MWL FO 014 *	smc5-2015/07/13	nmk6-2015/07/13

The result(s) issued on this report only reflect the analysis of the sample(s) submitted.

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 LANCASTER CA 93535**

REPORT OF ANALYSIS
 For: (26275) THUNDER NUTRITION
 LEADING COMPETITOR PRODUCT ANALYSIS #2

Analysis	Level Found		Reporting		Analyst-Date	Verified-Date
	As Received	Units	Limit	Method		
Sample ID: #2 Lab Number: 2419451						
Aspartic acid	0.08	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Threonine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Serine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Glutamic acid	0.34	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Proline	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Glycine	0.07	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Alanine	0.04	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Cystine	n.d.	%	0.01	AOAC 994.12 (Alt. I) *	jjd8-2015/07/22	tjp8-2015/07/24
Valine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Methionine	n.d.	%	0.01	AOAC 994.12 (Alt. I) *	jjd8-2015/07/22	tjp8-2015/07/24
Isoleucine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Leucine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Tyrosine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Phenylalanine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Lysine (total)	0.38	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Histidine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Arginine	n.d.	%	0.01	AOAC 994.12 (Alt. III) *	jjd8-2015/07/22	tjp8-2015/07/24
Tryptophan	0.03	%	0.01	AOAC 988.15 (mod) *	jjd8-2015/07/23	tjp8-2015/07/24
Protein	8.6	%	0.1	MWL FO 014 *	smc5-2015/07/13	nmk6-2015/07/13

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LANCASTER CA 93535**

REPORT OF ANALYSIS
For: (26275) THUNDER NUTRITION
PRODUCT ANALYSIS

Analysis	Level Found As Received	Units	Reporting Limit	Method	Analyst- Date	Verified- Date
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All results are reported on an AS RECEIVED basis., n.d. = not detected

For questions please contact:

Rob Ferris
Account Manager
rob.ferris@midwestlabs.com (402)829-9871

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**REPORT OF ANALYSIS
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PRODUCT ANALYSIS**

Detailed Method Description(s)

AOAC 994.12 (Alt. III) total amino acids-hydrolysis

A small amount of a homogenous sample is digested using a combination of heat and hydrochloric acid to break down the peptide bonds between the amino acids. The extract is treated to clean it up and then an aliquot is injected into the HPLC using a post-column derivatization apparatus and ninhydrin as the chromophore. This method cannot determine tryptophan. The amino acids cystine and methionine must undergo special treatment before they can be analyzed by this procedure.

AOAC 994.12 (Alt. I) - cystine & methionine

Sample analysis follows MWL HPLC 019 which is based on AOAC 994.12 (Alt I). A small amount of a homogenous sample initiall treated with performioc acid to prevent oxidation of cystine and methionine and then this extract is digested using a combination of heat and hydrochloric acid to break down the peptide bonds between the amino acids. The extract is treated to clean it up and then an aliquot is injected into the HPLC using a post-column derivatization apparatus and ninhydrin as the chromophore.

AOAC 988.15 - tryptophan

Sample analysis follows MWL HPLC 025 which is based on AOAC 988.15. A small amount of a homogenous sample is hydrolyzed using a base (sodium hydroxide) and nitrogen blanketed extraction and heat. After the hydrolysis, the extract is cleaned-up and injected into the liquid chromatogram (LC) using a mass selective detector (LC/MS).

AOAC 992.15 protein

Protein analysis is carried out using MWL FO 014 which is based on AOAC 992.15 and USDA/FSIS CLG-PRO04.03. Samples are weighed and placed in an instrument that combusts the sample and releases nitrogen. The amount of nitrogen is determined and then multiplied by a factor to convert the nitrogen value to a protein value. The standard reporting level is 0.1%

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