

National Institutes of Health

Client Sample Name:	NIHUNG-102008	Covance Sample Number:	75484
Sample Status	Authorized	Number Composited	1
Project ID	NAT_INST-20081103-0004	Disposal Instructions	Dispose 60 days after final reported
PO Number	None Provided		
Login Date	03-Nov-2008		
Storage Condition	-20 (+/- 10) Degrees Celsius		

<u>Analysis/Result Name</u>	<u>Result</u>
Fat	
Fat	4.0 %
Crude Fiber	
Crude Fiber	10.6 %
Protein (N x 6.25) Dumas Method	
Protein	16.3 %
Vitamin A	
Vitamin A	16600 IU/kg
Vitamin D	
Vitamin D	1990 IU/kg
Vitamin D2	<200 IU/kg
Thiamin	
Thiamin Hydrochloride	37.3 ppm
Selenium	
Selenium	0.225 ppm
Elements by ICP Emission Spectrometry	
Calcium	13000 ppm
Copper	15.2 ppm
Iron	318 ppm
Magnesium	2290 ppm
Manganese	61.9 ppm
Phosphorus	7660 ppm
Potassium	14300 ppm
Sodium	6250 ppm
Zinc	150 ppm
Sulfur	
Sulfur	2910 ppm
Ash	
Ash	9.5 %

Certificate of Analysis**Final Report**

Print Date: 12-Nov-2008 11:51:12AM

Report Number: 40674-0

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<u>Analysis/Result Name</u>	<u>Result</u>
Moisture	
Moisture	11.8 %
Escherichia coli Count	
Escherichia Coli	<10 CFU/g
Listeria	
Listeria	Negative /25 g
Salmonella BAM (Rapid method)	
Salmonella	Negative /25 g
Yeast and Mold Count	
Mold Count	190 CFU/g
Elements by ICP Mass Spectrometry	
Molybdenum	1450 ppb

Sample Reviewed by:



Kevin Hewitt

National Institutes of Health

Method References

Ash

Official Methods of Analysis of AOAC INTERNATIONAL (2005) 18th Ed., AOAC INTERNATIONAL, Gaithersburg, MD, USA, Official Method 923.03.

Crude Fiber

Official Methods of Analysis of AOAC INTERNATIONAL (2005) 18th Ed., AOAC INTERNATIONAL, Gaithersburg, MD, USA, Official Method 962.09.

Elements by ICP Emission Spectrometry

Official Methods of Analysis of AOAC INTERNATIONAL, (2005) 18th ED., AOAC INTERNATIONAL Gaithersburg, MD, USA, Official Methods 984.27, 985.01.

Elements by ICP Mass Spectrometry

Official Methods of Analysis of AOAC INTERNATIONAL, 18th Ed., Method 993.14, AOAC INTERNATIONAL, Gaithersburg, Maryland, (2005).

Escherichia coli Count

Compendium of Methods for the Microbiological Examination of Foods, Colony Count Methods, 4th Edition, Chapter 6,7, American Public Health Association: Washington, D.C. (2001). Modified.

Fat

Official Methods of Analysis of AOAC INTERNATIONAL, 18th Ed., Methods 922.06 and 954.02, AOAC INTERNATIONAL, Gaithersburg, MD, USA, (2005).

Listeria

1. Bacteriological Analytical Manual, *Listeria monocytogenes*, 8th Edition,] Chapter 10, 2003. Food and Drug Administration, AOAC International: Gaithersburg, Maryland. Modified.
2. Compendium of Methods for the Microbiological Examination of Foods, *Listeria*, 4th Edition, Chapter 36, 2001. American Public Health Association Washington D.C. Modified.
3. *Listeria* Visual Immunoprecipitate (VIP), AOAC Official Method 997.03. Official Methods of Analysis of the AOAC International, 18th Edition, 2005. Gaithersburg, Maryland. Modified.

Moisture

Official Methods of Analysis of AOAC INTERNATIONAL, 18th Ed., Methods 925.09 and 926.08, AOAC INTERNATIONAL, Gaithersburg, MD, USA,(2005).

Protein (N x 6.25) Dumas Method

Official Methods of Analysis of AOAC INTERNATIONAL, 18th Ed., Methods 968.06 and 992.15, AOAC INTERNATIONAL, Gaithersburg, MD, USA, (2005).

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Method References

Salmonella BAM (Rapid method)

1. Bacteriological Analytical Manual, Salmonella, Chapter 5, 8th Edition, 2006. Food and Drug Administration, AOAC International: Gaithersburg, Maryland. Modified.
2. Compendium of Methods for the Microbiological Examination of Foods, Salmonella, Chapter 37, 4th Edition, 2001. American Public Health Association. Washington D.C. Modified.
3. Salmonella in Foods, AOAC Official Method 990.13, DNA hybridization Method. Official Methods of Analysis of the AOAC International, 18th Edition, 2005. Gaithersburg, Maryland. Modified.

Selenium

Official Methods of Analysis of AOAC INTERNATIONAL, 18th Ed., Method 986.15, AOAC INTERNATIONAL, Gaithersburg, MD, USA, (2005).

Sulfur

Official Methods of Analysis of AOAC INTERNATIONAL, 18th Ed., Method 993.14, AOAC INTERNATIONAL, Gaithersburg, Maryland, (2005).

EPA Method 200.8, Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma-Mass Spectrometry, (1994).

Cabrera, C., Gallego, C., Lopez, M.C., Lorenzo, M.L., Lillo, E., Determination of Levels of Lead Contamination in Food and Feed Crops, Journal of AOAC International, Volume 77(5):1249-1252,(1994).

Thiamin

Official Methods of Analysis of AOAC INTERNATIONAL, 18th Ed., Methods 942.23, 953.17, and 957.17, AOAC INTERNATIONAL, Gaithersburg, MD, USA, (2005).

Vitamin A

Official Methods of Analysis of AOAC INTERNATIONAL, 18th Ed., Methods 974.29, 992.04, and 992.06, AOAC INTERNATIONAL, Gaithersburg, MD, USA, (2005).

Thompson, J.N., and Duval, S., "Determination of Vitamin A in Milk and Infant Formula by HPLC", Journal of Micronutrient Analysis, 6:147-159, (1989).

Vitamin D

Official Methods of Analysis of AOAC INTERNATIONAL (2000) 17th Ed., AOAC INTERNATIONAL, Gaithersburg, MD, USA, Official Method 982.29.

Yeast and Mold Count

Compendium of Methods for the Microbiological Examination of Foods, Colony Count Methods, 4th Edition, Chapter 6,7, American Public Health Association: Washington, D.C. (2001). Modified.