BIOTHERA

the immune health company 3388 Mike Collins Drive Eagan, MN 55121

Certificate of Analysis

APG 3-6

Product Name:

APG® 3-6 Beta 1,3/1,6 Gluco Polysaccharide Dispersible Powder

derived from Baker's Yeast (Saccharomyces cerevisiae)

Common Name:

Bakers Yeast Beta Glucan

Product No:

F3001 12355-021

Lot No: Manufacture Date:

20DEC12 20DEC17

Current Specification

Exp. Date: Date COA Issued:

29MAY13

Attribute

A proprietary strain of non-GMO

Result

Method of Analysis

Origin:

Saccharomyces cerevisiae *

Conforms

Assay per FCC Beta Glucan

Gluco Polysaccharide (beta 1,3/1,6)

 \geq 60% (dwb)²

74% 85.04%

from Bakers Yeast Monograph ** By Calculation

Carbohydrates:

> 60%

Conforms

Biothera SOP QC20140-00

Appearance: Taste:

Fine beige/tan powder Bland

Conforms Conforms Biothera SOP QC20590-00

Odor: Protein: Faint/mild < 10% < 20%

2.99% 4.98%

Organoleptic AOAC 990.03

Fat: Ash:

< 5%

1.27%

AOAC 989.05 AOAC 942.05

NA

Moisture: Aerobic Plate Count: < 8% < 20,000 cfu/q 5.72% < 10 cfu/g AOAC 925.45A AOAC 966.23

Coliform:

< 3 MPN/q Negative

< 3 MPN/qNegative /25g

AOAC 966.24 AOAC 2004.03

Salmonella sp: E. coli USP:

Negative /10g

Yeast + Mold Total:

≤ 100 cfu/g combined

Negative /10g < 10 cfu/g

USP34, NF29, 2011,62 FDA-BAM 7th ed

with Yeast ≤100 cfu/q Mold ≤100cfu/g

Negative /10g

USP34, NF29, 2011,62

Staphylococcus aureus: Lead: Mercury:

Negative /10g < 0.5 mg/kg < 0.1 mg/kg

< 0.025 mg/kg < 0.02 mg/kg

SW-846 6020 SW-846 7473

Arsenic: Cadmium:

< 1.0 mg/kg < 1.0 mg/kg 0.031 mg/kg 0.011 mg/kg

SW-846 6020 SW-846 6020

Recommended Storage Conditions: Room Temperature, Cool, Dry Conditions Shelf Life: 5 Years From Date of Manufacture

As alucose

² Content at time of analysis on a dry weight basis

^{*} This Primary (non spent) Yeast is used because of the unique chemical structure of the ß-1,3/1,6 glucan synthesized into the cell wall. The unique structure includes the frequency of side chains, the side chain lengths, and the ratio of different glycosidic linkages that contribute to primary, secondary, and tertiary structure.

^{**} Food Chemicals Codex 7thed, 3rd supplement **pgs. 1686-1689