

alita

Bioscience

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Executive Summary

Results & Outcome

As Alita Bioscience continues to refine a method for alpha/beta glucan analysis for Perfect Supplements. Outlined in Alita's report, further method development should be conducted to ensure future results remain consistent and valid. Alita will continue to hone in on a perfected method. Additionally, Alita and Perfect Supplements shall work closely on validating that specifications, thresholds and other variables resemble accurate readings on future batches.

Alita Fungi Enzymatic Polysaccharide Profile Analytical Method

Protein Analysis via DUMAS Method

Method - AOAC 992.15*; AACC 46-30*

Description: Sample is combusted at high temperatures in the presence of pure O₂ (99.9%). Protein is then calculated from the nitrogen content using a published conversion factor (e.g. 5.70 for wheat).

Alditol Acetate Analysis

Method - AOAC 982.14*

Description: Sample is completely digested through hydrolysis with Trifluoroacetic acid (TFA) for a period of 4 hours at 100°C.

Hydrolyzate is evaporated to dryness and Alditol-trifluoroacetates derived from sugars are analyzed using gas chromatography.

Protein-bound Polysaccharides

Calculation equals the difference between the total 'free' polysaccharides from beta glucan testing and the cross-linked/bound polysaccharides (alditol-acetate analysis), which is then summed with the protein content determined through the DUMAS method arriving at the Protein-bound Polysaccharides.

Sample Treatments

Prior to quantitation of alpha-glucans and total 'free' polysaccharide content, sample solutions are treated with chitinase, and passed through an active carbon filtration. The resulting solution is then treated with alpha amylase. These solutions then follow acid hydrolysis depending on mushroom strain.

Alpha Glucans, Beta Glucans & Total 'Free' Polysaccharides

Once treatments have been completed solutions pass through a typical alpha/beta glucan and polysaccharide analysis. Utilizing kits commercially available in the market. These typically utilize acid digestion, glucanase, glucosidase, buffers and reagents to achieve alpha glucan and beta glucan content.

Some analysis has been slightly modified from its originally published procedure.

Certificate of Analysis cont.

Description	Company	Contact	Contact Info
Analyzed by:	Alita Bioscience	Jeff Tassill	jeff@alitabio.com
Analyzed for:	Perfect Supplements	Kimberly DeLisio	kim@perfectsupplements.com

Batch Mushroom Immunity

Product Name		Unit of Measure	Method Reference
Lot Number	C031205		
Purchase Order Number	N/A		
Manufacturing Date	N/A		
FTIR	NT	Pos/Neg	In-house Method
Moisture Content	4.43%	%	AOAC 930.15* Loss-on-drying
Total Glucans	307.22	mg/g	Megazyme K-YBGL*
Alpha Glucans	23.65	mg/g	Megazyme K-YBGL*
Beta Glucans	283.57	mg/g	Megazyme K-YBGL*
Protein Content	19%	%	DUMAS
Total Polysaccharides	55%	%	HPLC

N/A - Product cannot be tested for mushroom specific species as it contains multiple fungi species

NT - Not tested. FTIR analysis is still in development for this species

PERFECT SUPPLEMENTS

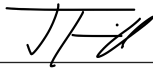
Date received: Various

Date completed: Various

Alita Bioscience Corporation
Tigard, Oregon

Perfect Supplements
Florence, MA

Certified by:



Jeff Tassill - CEO & Founder

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Certificate of Analysis Concluded

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