LIFTMODE

LIFTMODE
47 W. Polk St. STE 100-241
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CERTIFICATE OF ANALYSIS

Phenibut Free Amino Acid

(β-phenyl-γ-aminobutyric acid)

Material Lot #: 20160802
Country of Origin: China

Manufacture Date: 03/01/2016
Expiration Date: 02/28/2019

Analysis	Claim	Result
Phenibut FAA	≥99.5%	99.21%

Test	Specification	Result
Appearance	White or almost white powder	Complies
Relative Material	≤0.1	Complies
Water %	≤0.5%	0.12%
Residue on Ignition	≤0.1	0.01
Assay %	≥99.0%	99.21%

Phenibut FAA should be stored at or below room temperature in a tightly sealed durable container.
Phenibut FAA should be protected from excess heat, direct sunlight, excess humidity and moisture.
Phenibut FAA has a stable shelf life of 3 years from the date of manufacture when properly stored.

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Product Name	Phenibut FAA	Product Lot Number	20160802
Report Date	12/06/16	Laboratory Number	8008

Test	Method	Results
Phenibut FAA	CA-073 (HPLC-UV)	100.2%
Identification	^{1}H-NMR	Positive
Standard Plate Count	AOAC 966.23	32 CFU / g
Coliform Count	AOAC 991.14	< 10 CFU / g
E. Coli Count	AOAC 991.14	< 10 CFU / g
Salmonella	Modified AOAC 998.09	Negative / 25 g
Yeast and Mold	FDA BAM	45 / 53 CFU / g
Lead	ICP-MS USP <730>	0.017 ppm
Arsenic	ICP-MS USP <730>	<0.001 ppm
Cadmium	ICP-MS USP <730>	0.001 ppm
Mercury	ICP-MS USP <730>	0.003 ppm

Connor Holt
QA Auditor

12/06/2016
Date

MICROBAC

CERTIFICATE OF ANALYSIS

Work Order Number:
6111739

Date Reported 1/6/2017
Date Received 11/29/2016

Customer # AS956
Customer P.O. CC on file

Supplement Testing

Sample#: 6111739-01
Description: Phenibut FAA (>99.5%) / 20160802
Date and Time Sampled: 11/29/2016 0:00

Analysis Performed by: Microbac Laboratories Inc., Pittsburgh Division

Food Chemistry

Analysis	Method	Qualifier	Result	Units	Date	Time	Tech
Phenibut	LC/MS/MS		100	%	11/30/16	16:08	HEF
NMR	NMR		See Below	No Units	12/09/16	17:00	MMS

Analysis Performed by: Microbac Laboratories, Inc. - Chicagoland

Metals

Analysis	Method	Qualifier	Result	Units	Date	Time	Tech
Arsenic	SW-846 6020B		<0.0094	mg/Kg	12/02/16	13:24	SA
Cadmium	SW-846 6020B		<0.0094	mg/Kg	12/02/16	13:24	SA
Lead	SW-846 6020B		<0.0094	mg/Kg	12/02/16	13:24	SA
Mercury	SW-846 6020B		<0.0019	mg/Kg	12/02/16	13:24	SA

All samples were made to ca. 10 mg/mL in CDCl3, and all samples exhibited some level of insolubility.

Per Client agreement, NMR analysis subcontracted to UMBC MCAC. Raw NMR Spectra Attached.

The data and other information contained in this report, as well as any accompanying documents, represent only the sample(s) analyzed. They are reported upon the condition that they are not to be reproduced wholly or in part for advertising or other purposes without the written approval from the laboratory.

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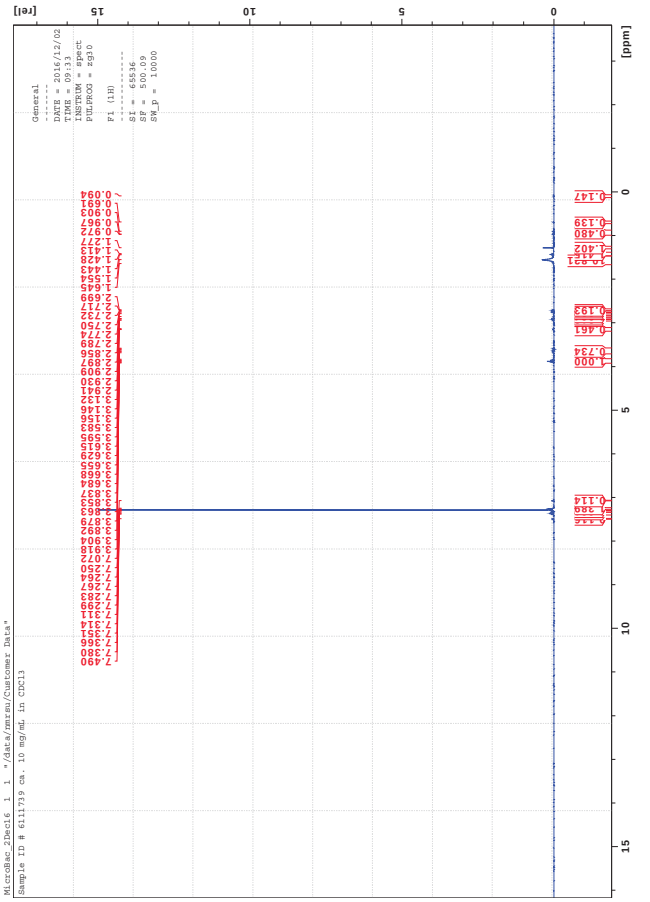

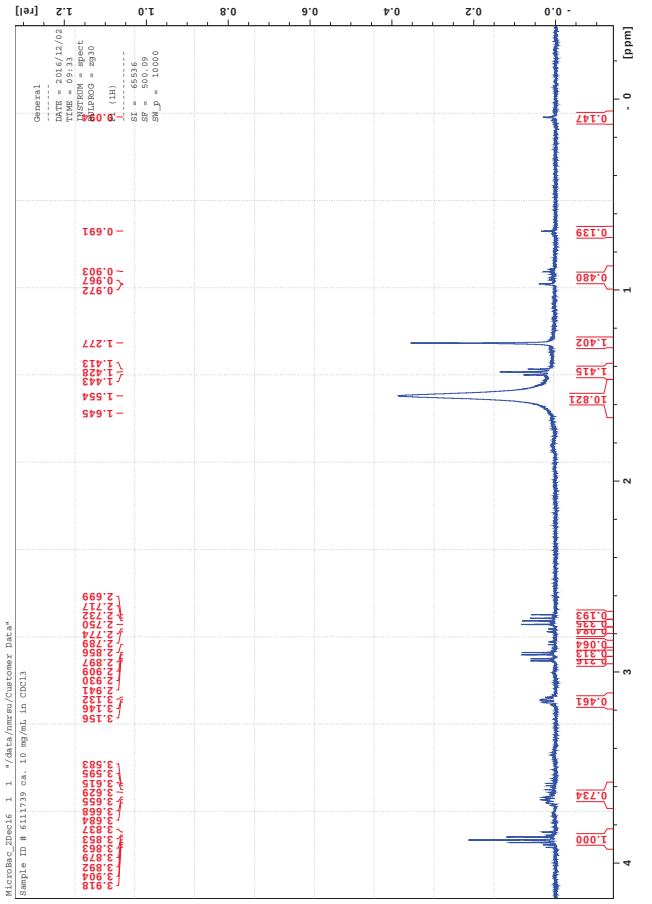

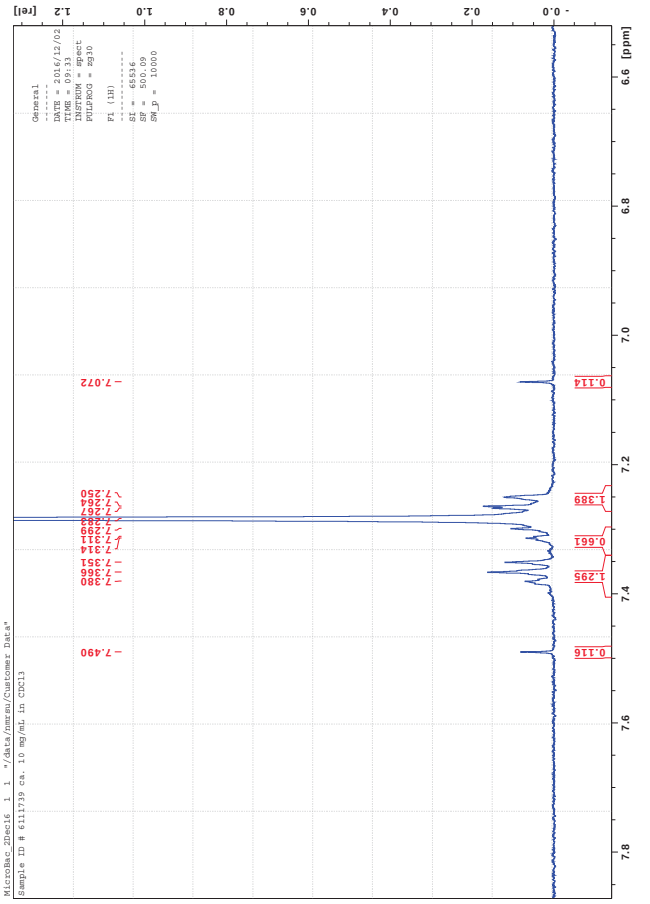

Phenibut HCl

- **Reduces stress**
- **Promotes healthy sleep**
- **Creates a feeling of well-being**
- **Phenibut is a nootropic substance that acts as a GABA agonist to treat stress and anxiety and promote restful sleep.**
- **The primary effects of phenibut use include pain-reduction, promoting calmness and a feeling of well-being, reduction of stress and promotion of restful sleep at higher doses.**
- **Recommended dosage of phenibut is 500-1500mg per day, in two to three separate servings, depending on the desired effect.**
- **Mild side effects may include dizziness and lethargy with higher doses and withdrawal symptoms are rare but can occur after prolonged use.**

Background

Phenibut, also known as β-Phenyl-γ-aminobutyric acid or noofen, has been used significantly in Russia since the 1960s as a nootropic supplement for treating anxiety and stress, for the promotion of a feeling of well-being and to promote good sleep. GABA is the primary inhibitory neurotransmitter molecule in the brain, and is divided into three groups: GABA-A, -B, and –C. Each GABA group has different functions. Targeting GABA-A subtypes produces sedative, anxiolytic, muscle-relaxing, and alcohol-potentiating effects as well as nootropic effects (GABA-A subtype 5). Targeting GABA-B subtypes reduces pain signals and has positive effects on memory, learning and mood. Phenibut (or fenibut / phenybut) acts primarily as a GABA-B agonist and also plays a role in activating some GABA-A receptors and is nonselective in the two. Its use as a GABA agonist is important because it is not possible to supplement with GABA alone due to the chemical structures of the molecules. The phenyl group on phenibut (note the name!) allows the chemical to cross the blood-brain barrier, while GABA itself cannot do this. It should be noted that other commonly used substances are also GABA agonists and these include alcohol as well as other commonly prescribed anti anxiety and sleep-inducing drugs.[1]

Phenibut effects/benefits

GABA transmitters are found throughout the CNS and specifically in regions of the spinal cord that are known to be associated with pain. The GABA neurotransmitters are also found outside of the spinal cord and in areas of the CNS that are known to coordinate the response to and perception of pain. They are inhibitory molecules and are able to regulate the amount of information that reaches the CNS. In a very simplified explanation, GABA transmitters are able to modulate the perception of pain and since they are inhibitory, a greater concentration of GABA will inhibit the perception of pain to an extent. Since phenibut acts as a GABA agonist, it is also able to reduce pain to an extent, along with creating other effects that include mood-lift and euphoria associated with anxiolytics.[2]

It is important to remember the different GABA-receptors and subtypes and that they all have different effects on the human body. While GABA-B agonists have a very strong potential to work as pain and anxiety relief, the problem is in dose and their being unselective in the different GABA-receptor groups. In most cases of tried chemicals, when the dose is high enough to provide pain-relief, other effects start setting in like sedation. This is because of interactions with other GABA-receptor groups.

One benefit of phenibut is that the dose can be altered according to what effect is desired. For simple anxiety relief and mood lift a lower dose is used. When the dose is increased, the chemical can become a hypnotic, ie can be used as a sedative and for treatment of sleep apnea. This is because of the nature of GABA molecule. As explained before, GABA is an inhibitory molecule and is able to 'filter out' information from the CNS. This is why it acts as a regulator for the perception of pain – it is able to stop too much information from entering our brains and allows us to only feel the necessary amount of pain to react. Often when we lie awake at night we are thinking about a lot of things and feeling a lot of things in our bodies and are generally restless. Phenibut is able to block out these perceptions and act as a sedative to improve sleep.[3]

A lot of research has gone into the use of phenibut as a neuroprotector and it has been found to be able to protect the brain from stress, especially when the brain is deprived of oxygen. This can occur during drowning, injury or during extreme physical exertion and can result in overheating.

Phenibut has also been found to have profound cardioprotective effects which include protecting the heart from injury.

"*Scientists have concluded from these studies that Phenibut results in higher cardiac contraction and relaxation rates, higher left-ventricular pressure during functional tests, and increased indexes of oxidative phosphorylation.*"[4]

Phenibut recommended usage

The recommended dose of phenibut is 500-1500mg per day, in two to three separate servings. A lower dose should result in more of a mood-lift, anxiety relief and euphoric effect whereas a higher dose it acts more as a sedative and results in better sleep. It is not recommended to exceed the daily dose as overdosing is possible. Also take note that tolerance can build up through continuous use but it is still not recommended to exceed the daily recommended dose.

Phenibut side effects and warnings

Phenibut is a great substance with multiple calming and mood-enhancing effects and, as with all GABA agonists, it can have some side effects.

Mild side effects can include gastrointestinal issues, dizziness, tiredness, memory reduction and lethargy and these are common with the use of all GABA-agonists.[5]

Withdrawal effects from phenibut use have also been reported on rare occasions. For this reason it is recommended to reduce dosage of phenibut before stopping entirely. Withdrawal effects can include negative thoughts, lethargy and irritability. There is a reported case of a 25-year old man in Russia who became hospitalised for psychosis from withdrawal after long high-dose use of phenibut.[6] The man was dosing at 20grams phenibut per day, which is a huge amount and creates massive risks of overdosing. The symptoms he experienced are not uncommon in alcohol-dependant withdrawal as well as withdrawal from Baclofen, GHB, benzodiazepine which are also GABA agonists.

"Phenibut **should NOT** be taken with **benzodiazepenes or alcohol** as it may result in respiratory depression that may lead to unconsciousness or even death".

References

[1] **"Phenibut (β-Phenyl-GABA): A Tranquilizer and Nootropic Drug"** Izyaslav Lapin, CNS Drug Reviews, Volume 7, Issue 4, pages 471–481, December 2001

[2] **"The role of GABA in the mediation and perception of pain"** Enna SJ1, McCarson KE, PubMed, Adv Pharmacol. 2006;54:1-27.

[3] **"Take Phenibut For an Alternative Source of Anxiety Relief"**, Nootropic Mind, online article, April 5 2014

[4] **"The Science of Phenibut"**, Phenibut for Anxiety, online article, 2012

[5] **"Phenibut, the Appearance of Another Potentially Dangerous Product in the United States"** Charles W. O'Connell, MD, Aaron B. Schneir, MD, James Q. Hwang, MD, MPH, F. Lee Cantrell, PharmD, The American Journal of Medicine, August 2014

[6] **"Psychotic symptoms during phenibut (beta-phenyl-gamma-aminobutyric acid) withdrawal"**, Lovisa Högberg, István Szabó, and Jaan Ruusa, Journal of Substance Use, 2013, Vol. 18, No. 4 , Pages 335-338