

DongHae – Hwak kkaen da

Hangover Drink- Fermented Tea

Always drinks Hwak kkaen da whenever you need vitality

- Start drinks with Hwak kkaen da for every day vitality(single day)!
- Recharge with Hwak kkaen da during tired afternoon!
- Before and after drinks Hwak kkaen da for quick recovery!

Donghae-bio Co. produce only hangover



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Contact point

Donghae Bio Co., Ltd.

PART 01

Alcohol decomposition boost, hangover & Liver protect function

1. Ferment tea for hangover prevention

Producing tea by ferment process and it may boost hangover recovery effects and protect liver function

2. Quick recovery from the fatigue

3. Suggested drinking manner

- 30 minutes before drink alcohol and after finish drink dr
- Next day morning when feels hangover or pain
- Whenever feels tired or fatigue

4. Hwak kkaen da shows more hangover recovery effect for high grade of alcoholic drinks such as whiskey or vodka.

5. New concept hangover solution for boosting liver function

Escape from hangover pain by promoting decomposition of acetaldehyde



Hangover prevention and escapes from hangover pain

Enhance blood circulation,
Recovery liver function,
Maintain physical condition



Test results of blood alcohol content

Test results of remaining blood alcohol content by hour



Decomposition ability of blood acetaldehyde content by hour



Donghae bio **hwak kkaen da** shows highest speed of decomposition for blood alcohol content and highest speed of decomposition for blood acetaldehyde content
Source ; Korea government test organization

Cause of hangover and hangover solution procedure

1. After drink, acetaldehyde produces from liver by decomposition of alcohol (ethanol) and acetaldehyde is main reason of hangover
 - Eliminate hangover, body secretes aldehyde dehydrogenase(ADLH) enzyme
2. Acetaldehyde is first grade of potential biomarker of human cancer and it accelerates or induces atopy, diseases of adult people, aging, dementia
 - WHO
3. Alcohol decomposition procedure
 - Alcohol->(alcohol decomposition enzyme)->acetaldehyde->(acetaldehyde decomposition enzyme)-> break down to acetate acid.
 - Needs alcohol decomposition enzyme and acetaldehyde decomposition enzyme and oriental people secretes those two enzymes smaller than western people.
 - ; ADLH decomposition content ; asparagine acid, glutathione, tryptophan, succinic acid.
4. Acetaldehyde(CH_3CHO)
 - Next day of drink, acetaldehyde is main reason of feeling dizziness, nausea, heart rate and respiration rise.
 - Asparagine acid resolve hangover by decomposition enzyme of acetaldehyde.
5. Glutathione composition prevents damage of fat and protein in interior of body and a kind of amino acid tryptophan, a kind of amino acid dissolve acetaldehyde.

PART 02

Hwak kkaen da material and manufacturing process



Donghae Hwak kkaen da
- functional drink that fermented
banaba leaf, balsam, moringa leaf
and green tea first time in Korea.

1. Main material of Donghae Hwak kkaen da

- Main materials of Hwak kkaen da consists banaba leaf, balsam, moringa leaf, green tea from Philippine organic farming and sub material consists condensed fluid of ginseng steamed red, cinnamon, dried orange peel, etc and produce without any chemical additives.
- Hwak kkaen da different from other hangover solution products which produced by several condensed fluid diluted.

2. Factory owned company produce product with sanitare fermentation procedure

- Factory produce only for hangover solution drink in order to raise specialty of products.

Banaba leaf

- Many tannin and similarity insulin cures the diabetic, overweight person and diminish blood sugar and fat cell
- Contains abundant corosolic acid, calcium, zinc and many micro elements and contains 1.5 times of dietary fiber than sweet photo.
- Effect of banaba leaf ; Prevent diabetic, Activated the prostate, Anticancer, relief pain, reducing blood sugar, prevent blood vessel by control cholesterol.
- Corosolic acid ; Reducing 23% of glucose and 41% of insulin in blood and cure diabetic disease by reduce 22% of triglyceride in blood



바나바 잎

Green tea

- Contains abundant catechin component improves neuralgia, muscle health, artery function by emitted impurities of body.
- Catechin component have excellent anticancer effect, reduce cholesterol number, prevent artery disease by melting thrombus, prevent accumulating fat component into liver, help detoxification of liver and prevent hangover by excellent decomposition ability of acetaldehyde.
- Catechin also shows excellent skin beauty by antioxidant effect with 10 times of vitamin C and 20 times of vitamin E.



녹차



Moringa

Moringa leaf

- Contain abundant nutrient of moringa leaf select world top 10 groceries and moringa leaf contains 112 kinds of nutrient component.
- It contains beta-carotene which changes vitamin A in body and many polyphenol component(anti-antioxidant material)
- Contains 3 times of kalium than banana which exhaust natrium and waste in blood vessel.
- 9 kinds of amino acid which is not produced from the body and contains folic acid, calcium, kalium, and vitamin C which increase immunity.(NIH)
- Prevent hardening of the arteries, high blood pressure , myocardial infraction, poststroke, etc.

Balsam

- Good for detoxification, robust, diabetic, alcohol poisoning and blood vessel disease
- Contain abundant botany insulin activate burning sugar and decrease blood sugar by activating pancreas function
- Cure high blood pressure, brain blood vessel by abundant vitamin C(5 times of lemon) and beta carotene(2 times of broccoli) and good for reducing fatigue & cholesterol, prevent cancer and increasing immunity
- Hangover recovery effect (Russia thesis, etc)



苦瓜叶 Balsam

HWAK KKAEN DA sub materials



Red ginseng

红参



Arrowroot

葛根



Cinnamon

桂皮



Artemisia

艾蒿



Citrus peel

陈皮



Licorice

甘草

<Prevent metabolism symptoms and close relationship with curing blood circulation system>

- Steamed ginseng red ; saponin component has increasing immunity, prevent various disease & cancer, recover fatigue, antiaging and reducing blood alcohol content. It increase liver function, disappears insomnia & thirsty , maintain menopause health.
- Arrowroot ; Improve diabetic and liver function(solution of hangover by catechin which accelerates decomposition of acetaldehyde) and improve blood circulation, contain estrogen 600 times more than pomegranate and estrogen improve women health and digest function.
- Cinnamon ; Reinforce blood vessel health, prevent high blood pressure & cancer, relieve gastroenteric disorder, inhibition inflammation reaction, reduce blood sugar(insulin), antioxidant and anti-inflammation.
- Artemisia ; Detoxification of liver, improve fat liver and jaundice, reduce cholesterol, skin beauty, improve costiveness and cold foot & finger symptom.
- Citrus peel ; Reduce cholesterol, diet effect, improve arthritis, prevent flu, remove phlegm, anti cancer effect.
- Licorice ; Reduce cholesterol, improve stomach function, prevent arteriosclerosis, reinforce muscle & bone, solve cough and phlegm, anti-cancer, detoxification effect.

Donghae HWAK KKAEN DA development process

- Natural materials for producing Hwak Kkaen Da are close relationship of curing blood circulation and consists of good composition for improving metabolism symptoms(diabetic, high blood pressure, overweight, hardness of arteries) and improving brightness of skin, smooth undergo metabolic change.
- First development purpose of Whan Kken Da is for curing diabetic, high blood pressure but accidentally found this materials had hangover recovery effects.
- Change development target to hangover recovery drink, this natural materials own effect found very high symptom after undergo fermentation procedure during long investigation and test period. Finally success to develop hangover recovery ferment tea first time in the world which certified by Korea government organization's test after concentrating to study ferment technology.
- In Korea, many company produces hangover recovery products but hawk kkaen da is certified only for hangover effect by government test organization.
- This product is general food and not health food.



PART 03

Competition superiority and suggestions

Donghae - whak kkaen da core competition factor

Using natural material

Natural material has no any chemical material & sufficient nutrient for human body that supplied from organic farm

Natural
botany
Material

Ferment
microbe

Ferment manufacture process by microbe

Effective composition of materials be extracted and disjointed small part by using microbe that promote digestibility and quick hangover

Korea government organization effect Certify

Hangover effect is much higher than the other drinks

Certified
effect

Hangover
solution

Ferment hangover solution tea

Development first time in Korea by ferment process

Blood circulation

Blood circulation promotion of material can be heated foot & hand of woman by improving peripheral nerve and showing quick recovery from fatigue

Blood
circulation

Fatigue
recovery

Acetaldehyde decomposition

Quick decomposition of acetaldehyde leads solution of hangover and activate liver function normally and finally help factigue recovery

Suggestions

1. Idiosyncrasy and sensitive Constitution people should check and confirm composition of materials
2. Be careful for overflowing and injury when open the pack
3. Drink immediately after opening the pack .
4. Do not heat this product in microwave oven.
5. Do not drink this product if find damage, deforming or deterioration of package.
6. Sediment is normal and drink after shaking because non addition of concentration material.
7. Recommend to drink within 2 years after production.
8. This documents is for reference only. Should check whether documents violate pertinent country's law before use if for advertising. All responsibilities belongs to user of this documents.



PART 04

Government permit document and test certificate

ISO22000

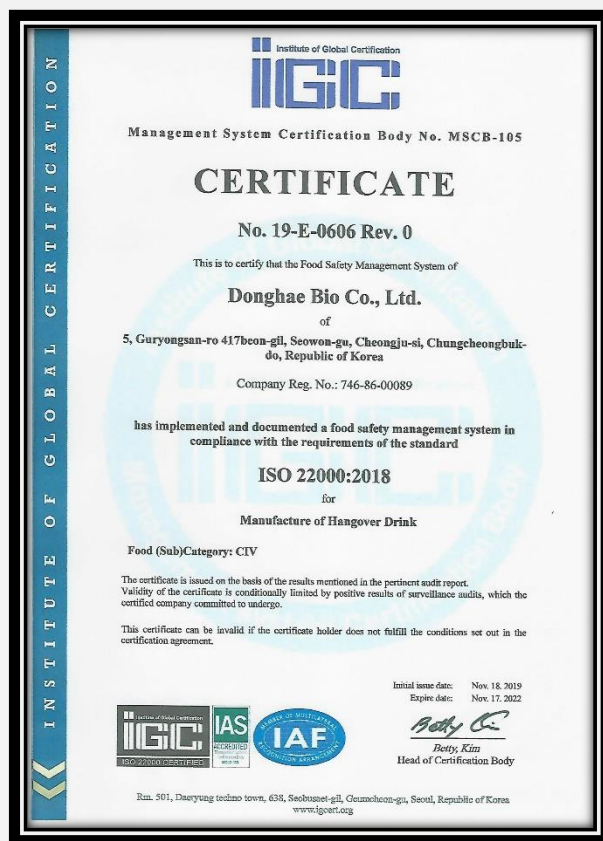
Chemical test certificate

Production certificate of inscription

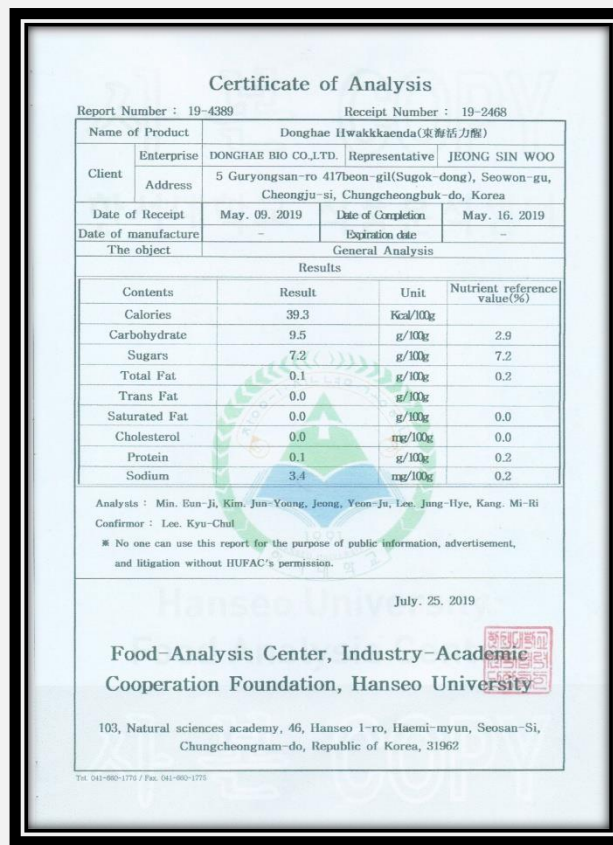
Trademark certificate of inscription

Test certificate of product by government organization

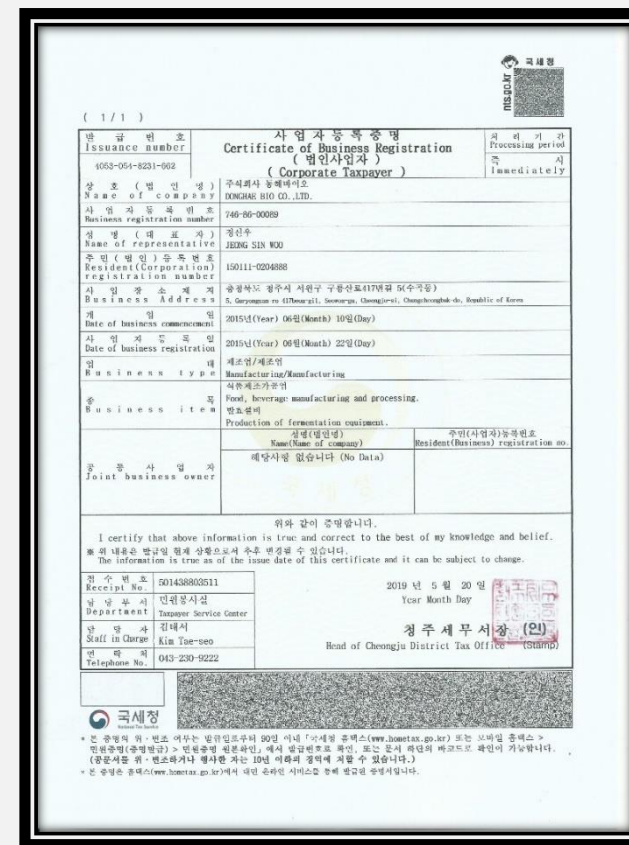
相 关 资 质 文 件



ISO 22000



Certificate of Analysis



Production certificate of inscription



Trademark certificate of inscription in China

**Korea
government
organization
test certificate**

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Figure 2. Blood aldosterone level in duration SD rats.

Group	1W	2W	4W
T1W	~135	~200	~280
T2W	~135	~280	~260
T4W	~135	~280	~260

Each point represents mean \pm SEM of Blood aldosterone in duration SD rats.

Table 2. Blood aldosterone level in duration SD rats.

Group	SDRSP		
	SD	SP	SE
3	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
1	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
2	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
5	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
10	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
20	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
40	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
80	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
160	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
320	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
640	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
1280	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
2560	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
5120	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
10240	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
20480	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
40960	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
81920	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
163840	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
327680	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
655360	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
1310720	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
2621440	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
5242880	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
10485760	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
20971520	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
41943040	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
83886080	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
167772160	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
335544320	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
671088640	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
1342177280	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
2684354560	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
5368709120	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
10737418240	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
21474836480	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
42949672960	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
85899345920	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
171798691840	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
343597383680	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
687194767360	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
1374389534720	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
2748779069440	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
5497558138880	13.5 \pm 1.41	13.5 \pm 1.41	13.5 \pm 1.41
1099511627			



PART 05

Contact us



**We share good business opportunity
with you at any time**

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THANK YOU

To improve our specialty, we are dedicated to produce only for hangover recovery drinks

