



Food material addressing alcohol consumption- related problems.

GMT®-ALC

GMT®-ALC is a natural food material containing rice embryo and soybean extract fermented using our state-of-the-art biotechnology to intend to reduce alcohol consumption- related problems.

Properties of GMT®-ALC

- is helpful for health both for habitual alcohol drinkers and non habitual alcohol drinkers
- refreshes your feeling and mouth
- is so adaptable to any tastes and safe that it can be mixed with any foods
- contains no preservatives or coloring agents,
- has been demonstrated for its efficacy and safety through animal experiments and its more than 10-year long commercial preferences by food manufacturers for their health foods.

Formulation properties of GMT-ALC

- The Product is manufactured by liquid culture (fermentation) of rice bran and soybean with bacillus subtilus natto on the alkali side. Later through ultrafiltration of extract low-molecular-weight compounds, which improves absorption efficiency, is collected.
- The product is highly heat and pH-stable.
- The product is easily mixed and dissolved with the liquids such as drinks. It is compatible with any forms of formulations.

Trade name	GMT-ALC powder	Manufacturing process
Generic name	Fermented rice embryo and bean extracts powder Powder concentrated 20 times equivalent to undiluted liquid	Raw material ↓
Ingredients label	Fermented rice embryo and bean extracts	Sterilization ↓
Shape	Powder	Fermentation ↓
Standard Doses	0.25 to 0.5g/day for fast acting 15mg/day for long-term usage 15mg/day for mixing with other materials	Compression ↓
Standard package	Cardboard box for 10kg of the product	Ultrafiltration ↓
Moisture	Less than 8.5%	Decoloration and deodorization ↓
Odor	Slight flavor	Sterilized filling ↓
Color	Lightly yellow, lightly brown or brown	Spray dry ↓
Arsenic	Undetected	Shifter ↓
Lead	Undetected	Storage and shipping
Cadmium	Undetected	
Number of viable cells	Less than 3000pcs/g	
Coliform group	Negative(-)	
Usage	<Tablets> Tablet the mixed materials after homogenizing them by multiplication technique. Direct and indirect tableting formulations are acceptable. <Drinkable preparations> The powder is easily dissolved into drinkable preparations.	

Trade name	GMT-ALC-5L	Manufacturing Process
Generic name	Fermented rice embryo and bean extracts powder Powder concentrated 5 times equivalent to undiluted liquid	Raw material ↓
Ingredients label	Fermented rice embryo and bean extracts	Sterilization ↓
Shape	Liquid	Fermentation ↓
Standard Doses	1 to 2g/day for fast acting 60mg/day for long-term usage 60mg/day for mixing with other materials	Compression ↓
Standard package	A 20kg of the product	Ultrafiltration ↓
Moisture	Less than 70%	Decoloration and deodorization ↓
Odor	Acid taste	Concentration ↓
Color	Lightly brown or brown	Sterilized filling ↓
pH	4.50 to 6.50	Storage and shipping
Brix	More than 30.0	
Arsenic	Undetected	
Deposition	No	
Lead	Undetected	
Cadmium	Undetected	
Number of viable cells	Less than 3000pcs/g	
Coliform group	Negative	
Usage	Drinkable products, tablets, cookies and gums * Because the product is a food material, its standard dose above specified should be used only as a rough guide.	

GMT is a registered trade mark of Toyo Hakkyo Co., Ltd.





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GMT[®]-ALC Experiment list

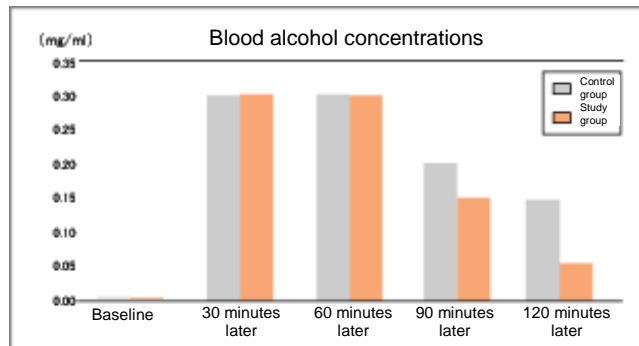
Effect of GMT-ALC on human blood alcohol concentration

●Experimental method●

Randomly selected 5 people were asked to take 50ml of water or GMT-ALC 5L 4% solution. 10 minutes later they were asked to drink 200ml of whisky and water (3 to 7 ratio). Blood alcohol concentrations were measured in the specified intervals.

●Results●

Decrease in blood alcohol concentrations was accelerated in all the subjects who took up GMT-ALC. There was a significant difference in the value between the treated and control groups 120 minutes after taking alcohol.



Effect of GMT-ALC on human breath containing alcohol

●Experimental method●

Randomly selected 10 people were asked to drink 200ml of whisky and water (3 to 7 ratio). 10 minutes later, they were asked to take 30ml of water or GMT-ALC 5L 4% solution. Breath alcohol odors were measured with the odor sensor.

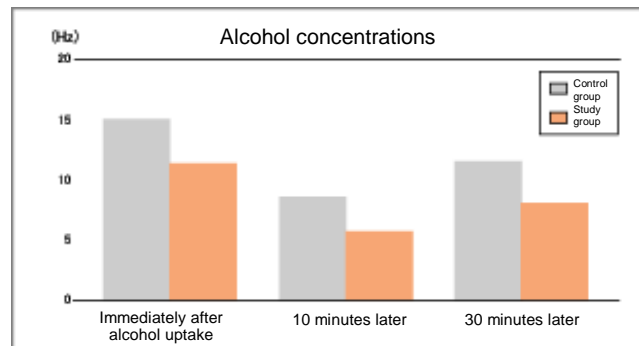
●Results●

The odors were reduced more greatly in the treated group than in the control group immediately after alcohol uptake.

Odor sensor:

The device quantifies the intensity of breath alcohol odors by transforming them to hertz. It processes the acquired data.

* Higher hertz means more intense odor and vice versa.



Study on liver function recovery in the mice with experimental hepatitis treated with GMT-ALC.

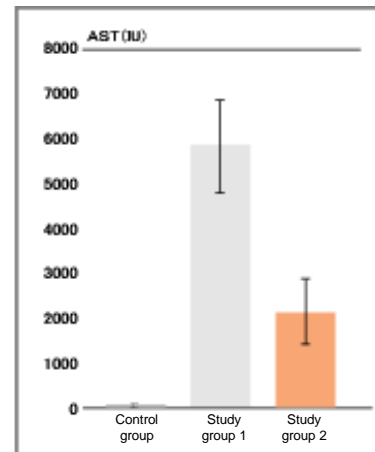
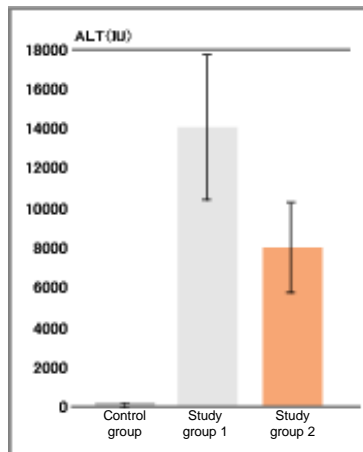
●Experimental method●

The following mouse groups were set up including three 10 mice at each group.
Control group; treated with drinkable water and feed alone
Study group 1; Treated intraperitoneally with CCl₄.
Study group 2; Treated intraperitoneally with CCl₄ + GMT-ALC containing 0.1% solution as drinking water.

●Results●

The study showed that serum transaminase was lower in Study Group 2 than in Study Group 1.

The finding shows that GMT-ALC inhibits the onset of acute hepatitis induced by carbon tetrachloride.



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