



L-GLUTATHIONE (For Health Food)

Manufactured by ;



Phone : +81-3-3242-3021 FAX +:81-3-3242-3087
1-21, Nihombashi Muromachi 4-Chome, Chuo-Ku
Tokyo, 103-0022, Japan
URL : <http://www.kohjin.co.jp/english>

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KOHJIN
—Since 1937—

Glutathione, Resistance for Digestion

□ Resistance Study with Artificial Digestive Juices

We checked the resistance of Glutathione (GSH) against digestive juices with artificial digestive juices.

We used...

Pepsin(1:50) for 1hr

SIF(1:250) for 2hr

Amino peptidase(200mU/mg) for 2hr

Then we measured GSH by HPLC (Data not shown for confidential).

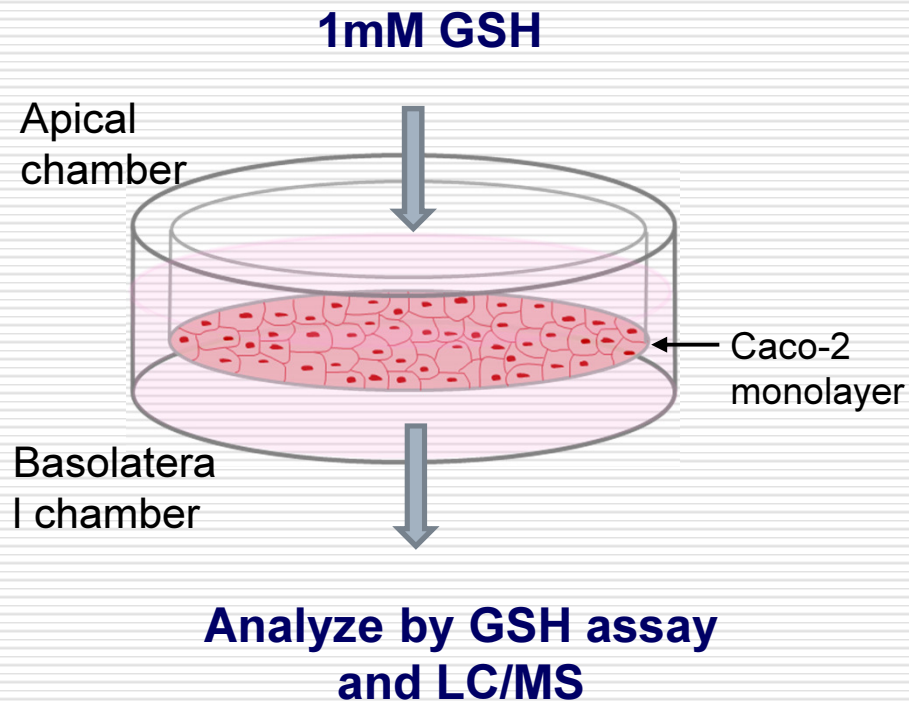
→We expected that the Glycine of GSH would be digested, but unexpectedly, no Glycine had digested.

→For oral intake, intact GSH will reach to small intestine.

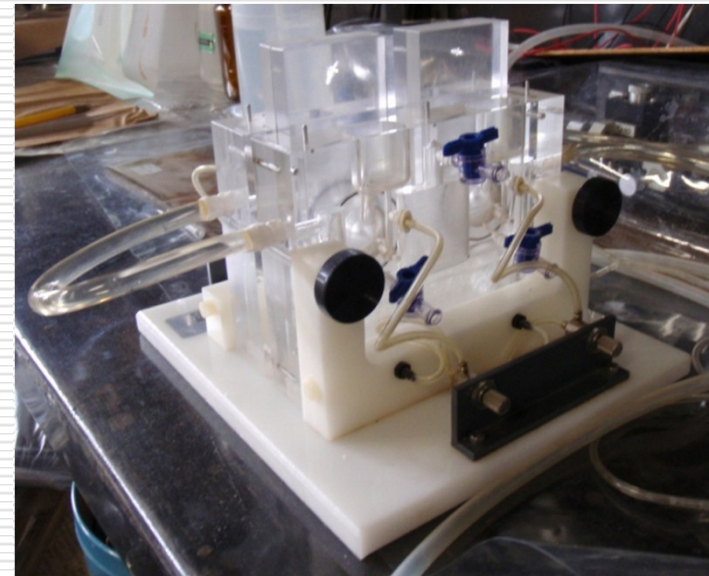
Absorption Study (Oral Intake)

□ Experimental Design

Trans well:



Using Chamber:



□ Intact Glutathione pass through the Caco-2 monolayer.

(Data not shown for confidential)

Skin Health & Glutathione

Function of Glutathione & Benefits...

**Melanin
Inhibition**



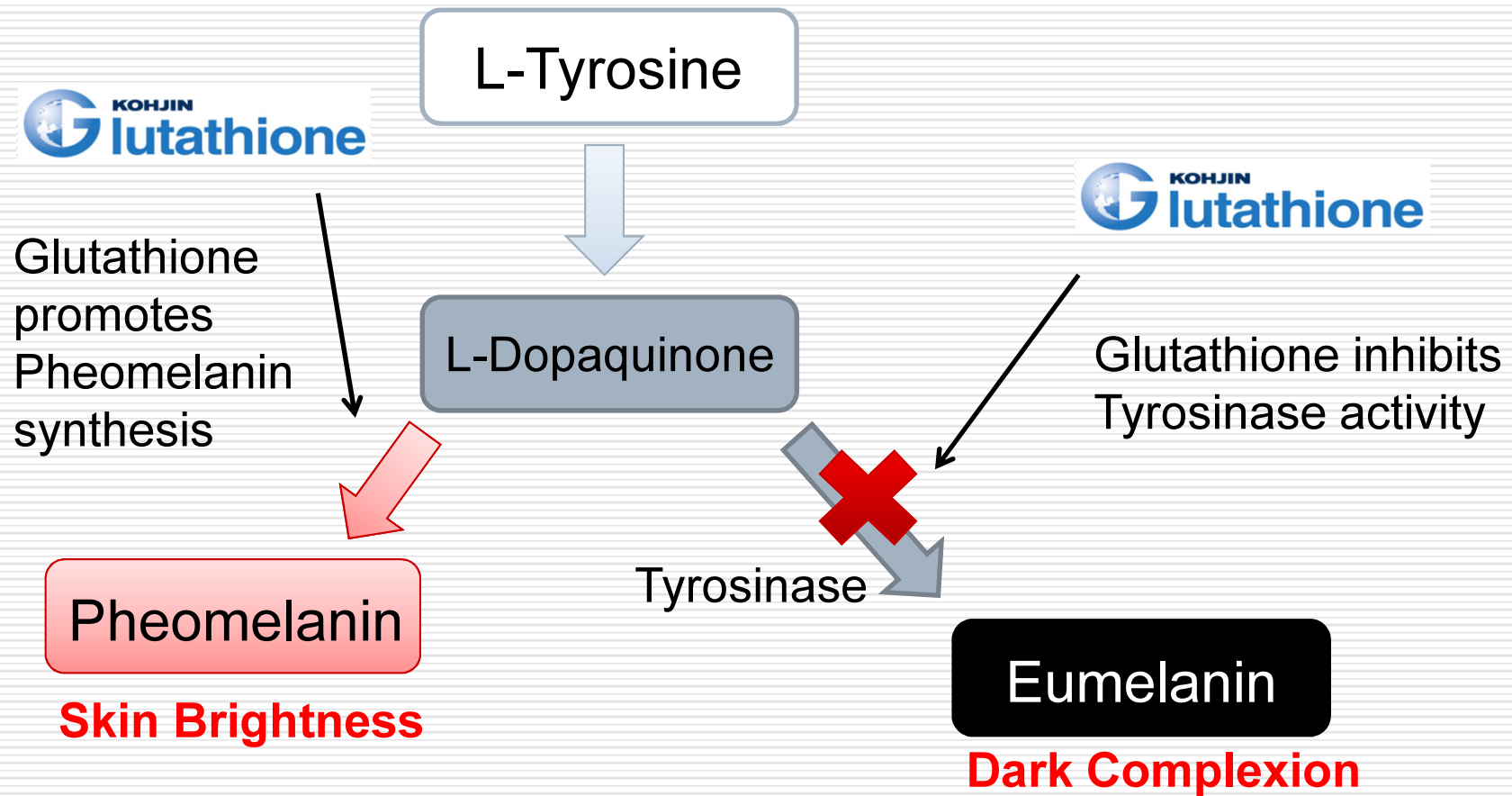
- Whitens the skin
- Dark spot remover
- Prevent and/or remove pimples and pimple marks

Antioxidant



- Anti-aging and anti-wrinkles
- Makes skin smooth, fresh and radiant
- Enhance healing of wounds

Mechanism of Skin Beauty

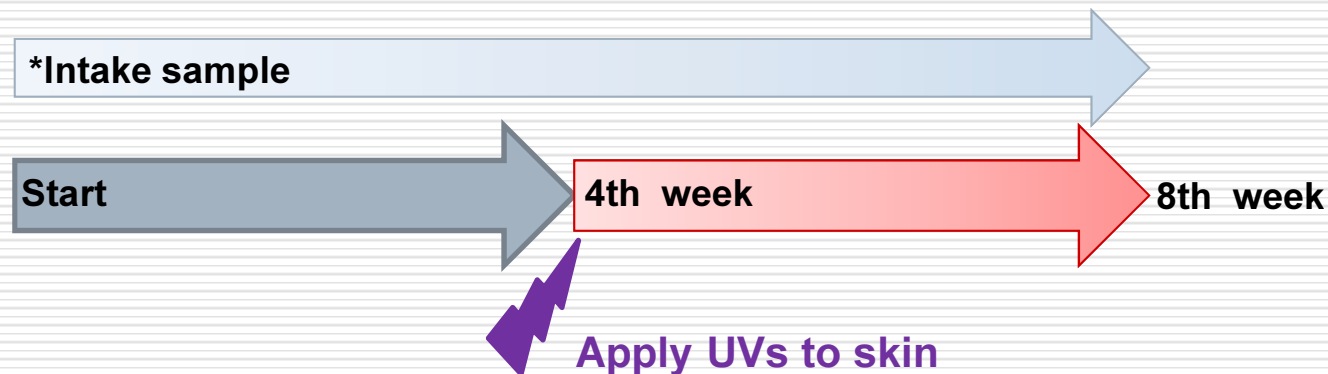


- Glutathione inhibit the Tyrosinase activity and Eumelanin synthesis and increase the ratio of Pheomelanin

Clinical Study on Skin Beauty

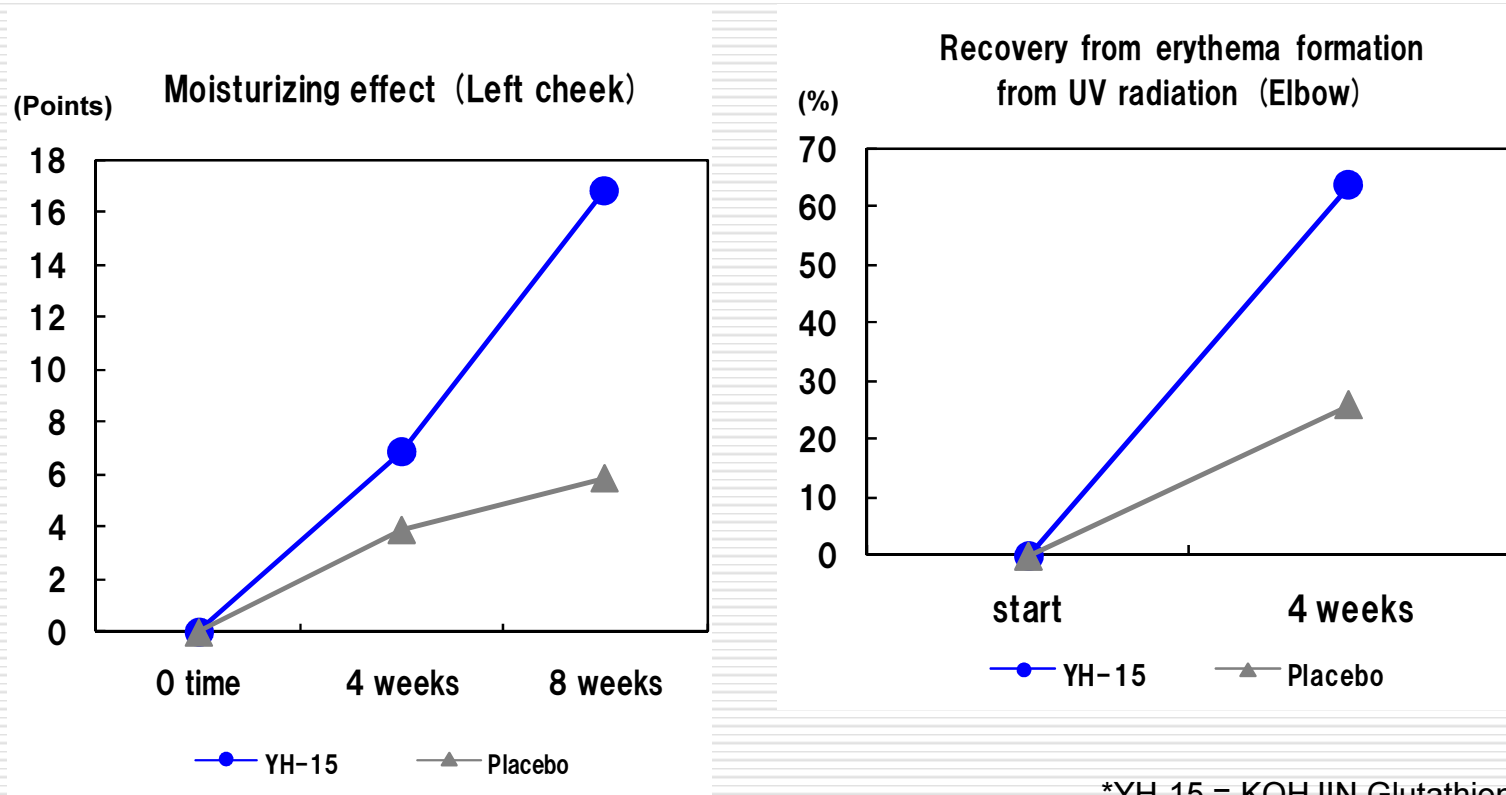
- ❑ Terms of the study: May to July, 2010
- ❑ Subjects of the study: Thirty (30) women, age 20s to 40s
- ❑ Study groups: Placebo group & Glutathione group
- ❑ Sample Glutathione: 50mg, once a day, before sleep
- ❑ Study protocol: DBT / Parallel Group Comparison

Apply UVs to skin on 4th week, and check following items;
Moisturizing, Erythema, L-value(brightness), Questionnaires



Moisturizing & Erythema Recovery

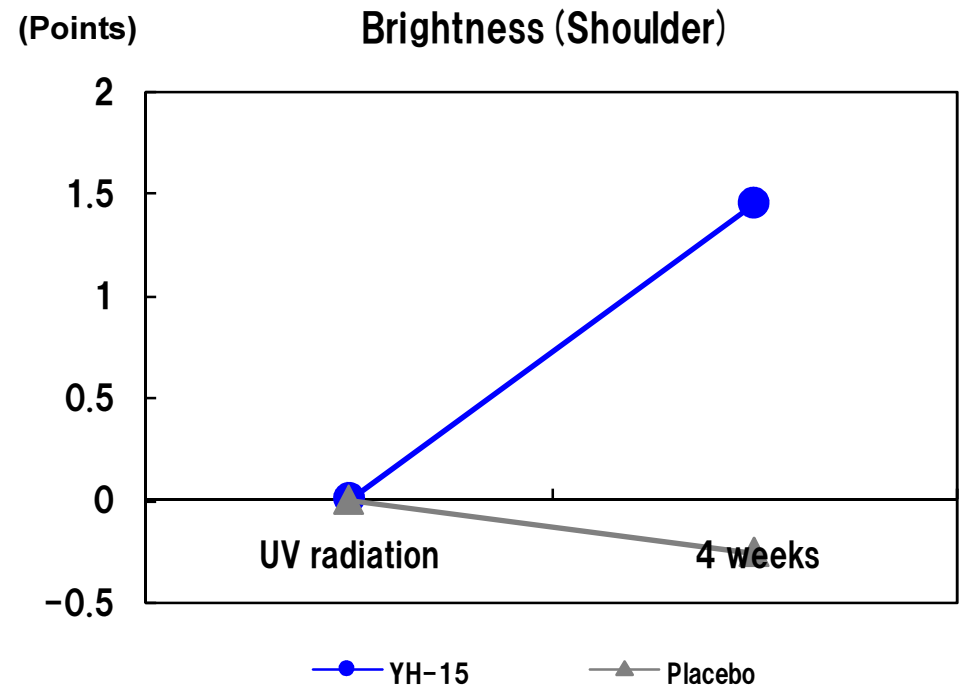
- 4 weeks later after apply UVs (8th week), we checked the moisturizing and recovery rate of erythema (reddish) increases.



*YH-15 = KOHJIN Glutathione

L-Value Changes with Time

- 4 weeks later after apply Uvs (8th week), we checked the L-Values as brightness.

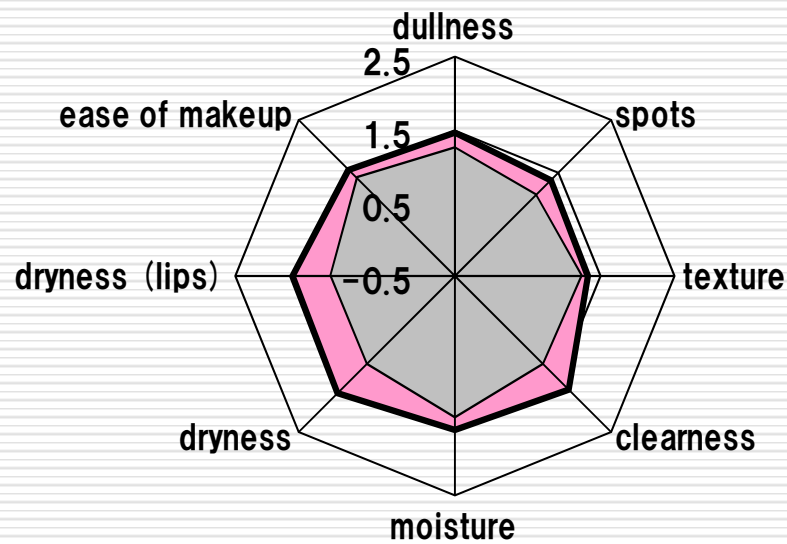


*YH-15 = KOHJIN Glutathione

Questionnaires on Skin Beauty

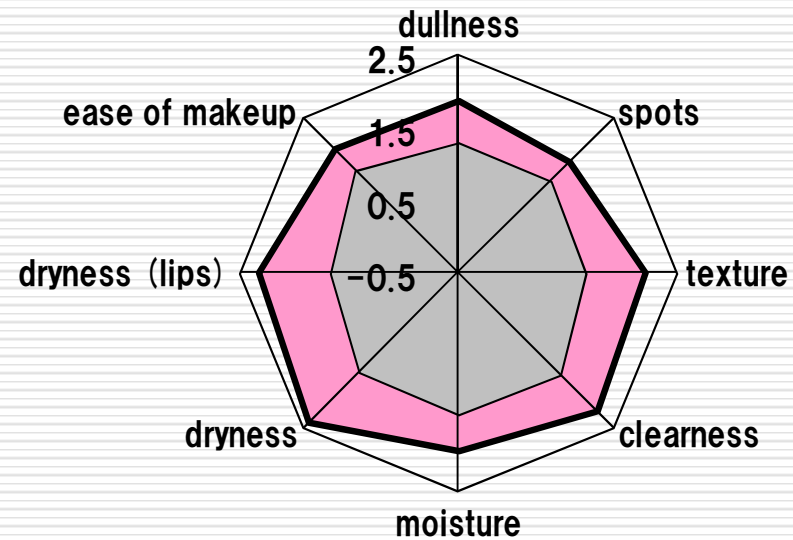
- Questionnaire survey after 4 weeks and 8 weeks of the test period.

Survey after 4 weeks of test period



■ YH-15 ■ Placebo

Survey after 8 weeks of test period

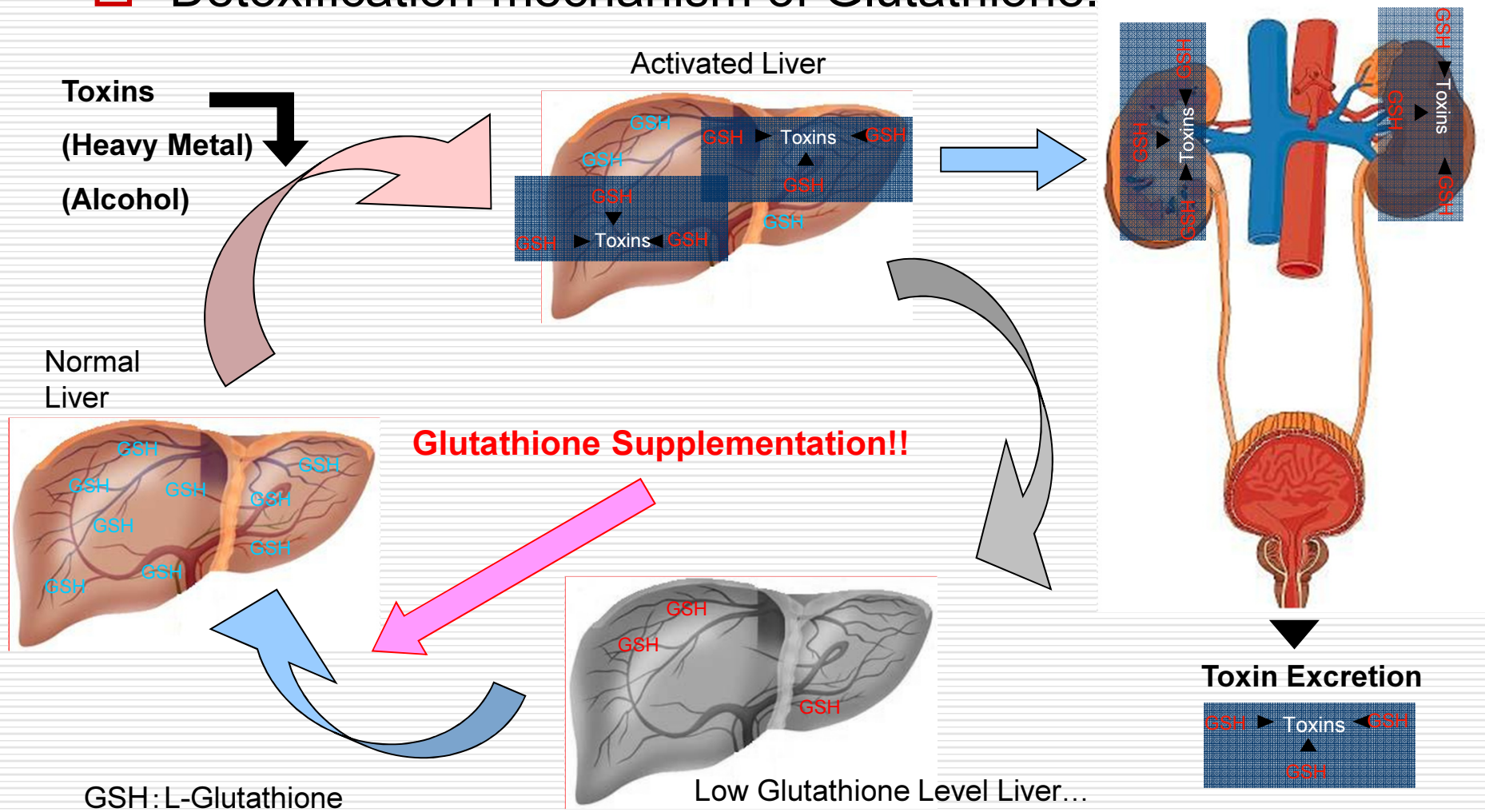


■ YH-15 ■ Placebo

*YH-15 = KOHJIN Glutathione

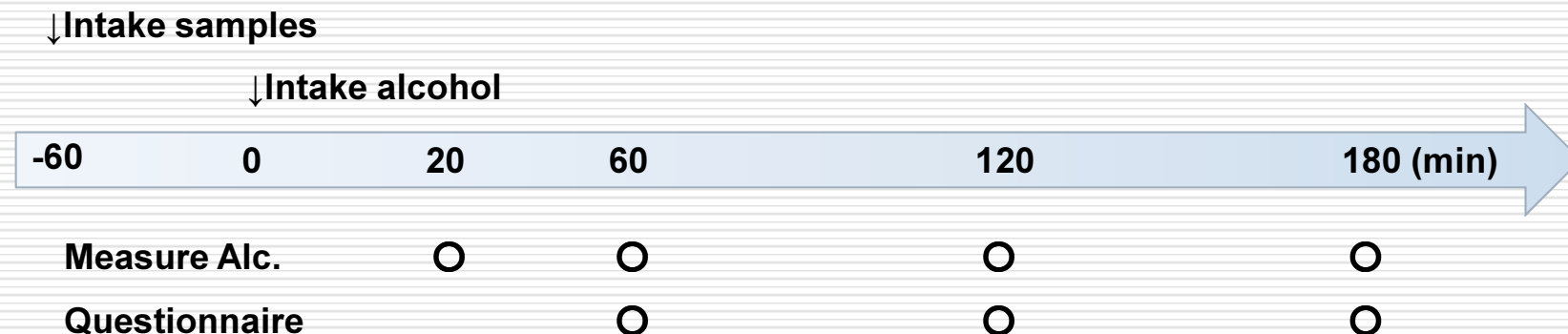
Detoxifier Effect

□ Detoxification mechanism of Glutathione.



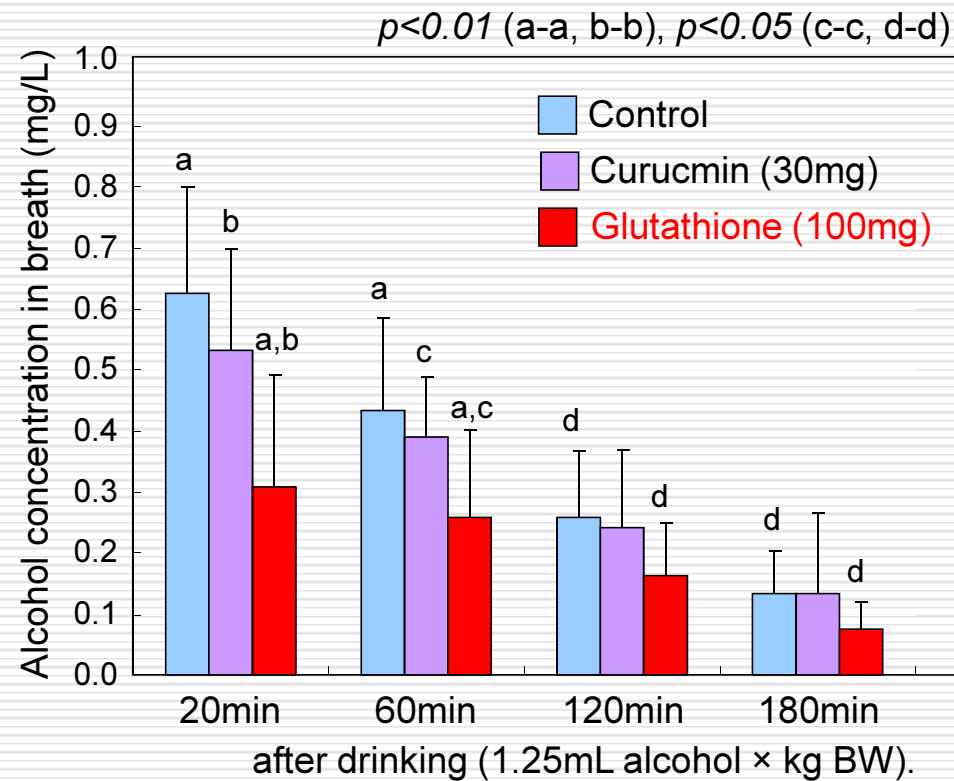
In-House Human Study (Alcohol)

- Sample;
Placebo(Dextrin), Curucmin (30mg) and L-Glutathione (100mg)
- Subjects; N=20 (Men and Women)
- Alcohol intake; 1.25mL X Body Weight (kg)
- Measure the alcohol concentration in breath on 20min, 60min 120min and 180min and Questionnaires.



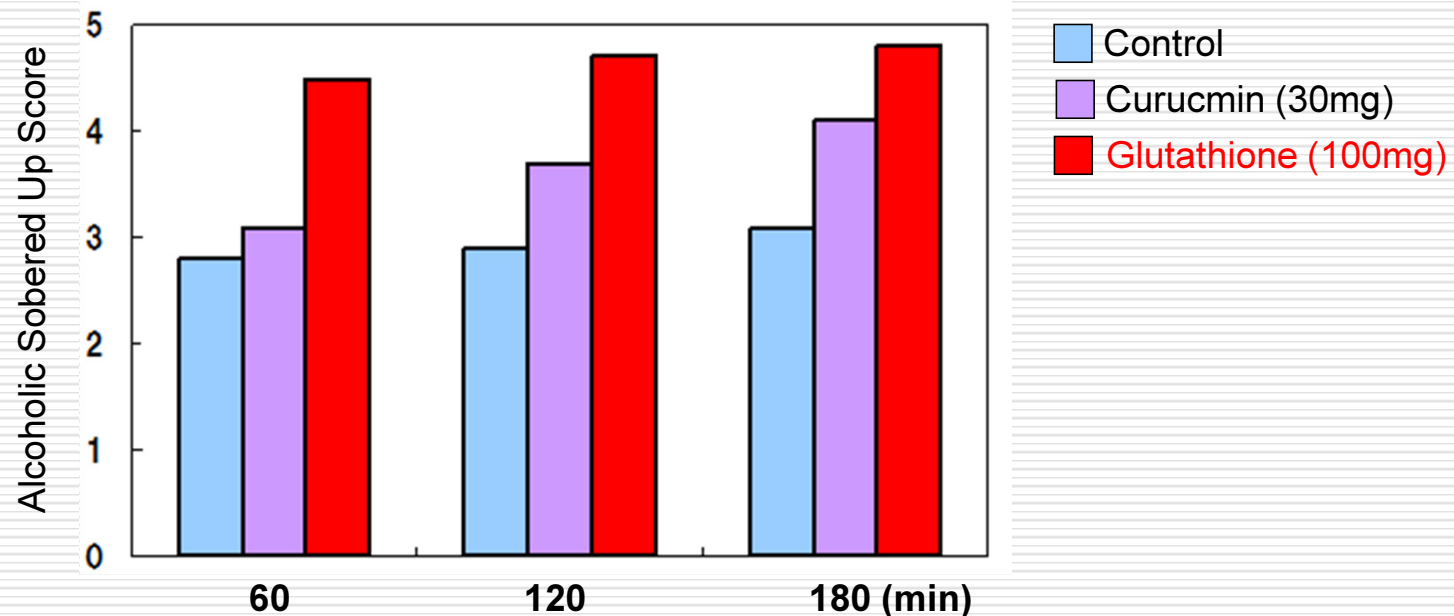
In-House Human Study (Alcohol)

- ❑ Glutathione reduced the alcohol concentration in breath immediately.



In-House Human Study (Alcohol)

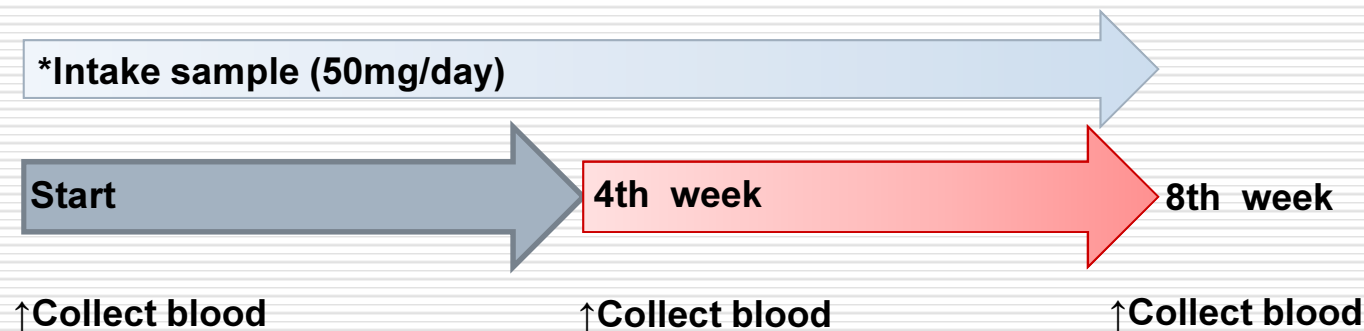
- Glutathione improved the Physical Feeling of Alcoholic Sobered Up.



- Alcoholic Sobered Score; Improvement score of sobering up, sleepiness, headache, heavy stomach, swelling, glow and dizzy (Average).

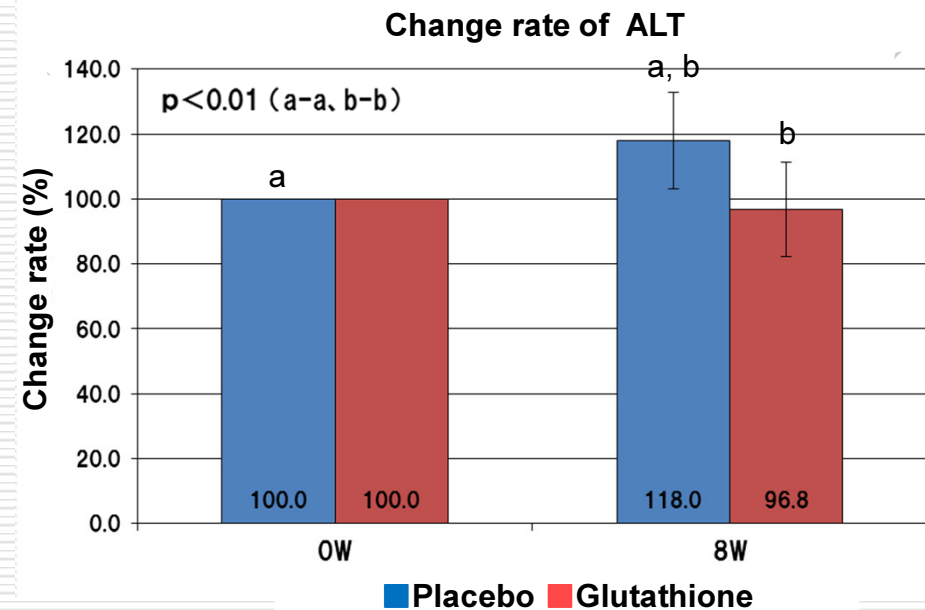
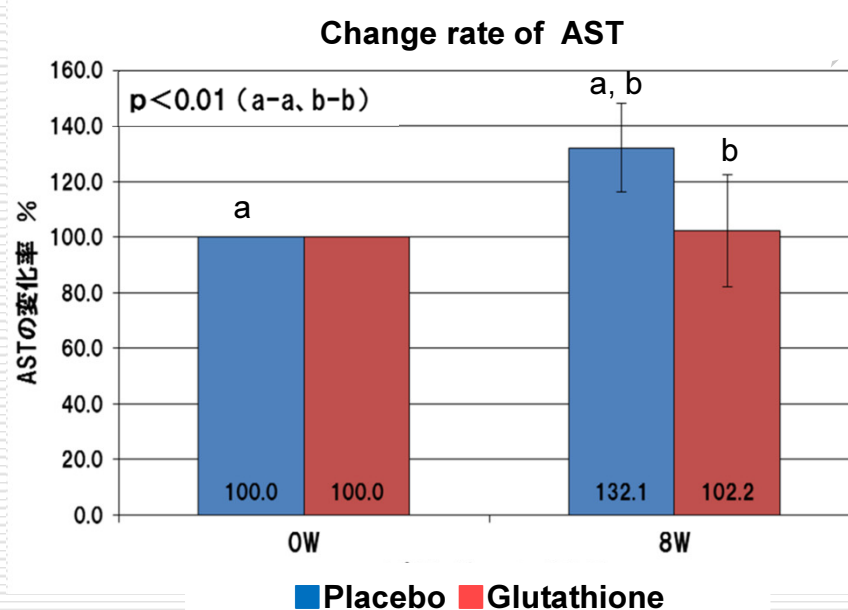
In-House Human Study (Liver Health)

- Sample;
Placebo(Dextrin) and L-Glutathione (50mg/day)
- Subjects; Total N=26 (Men and Women)
- Term; 8 weeks
- Collect the blood and measure the AST, ALT and γ -GTP on 0 week and 8th week.



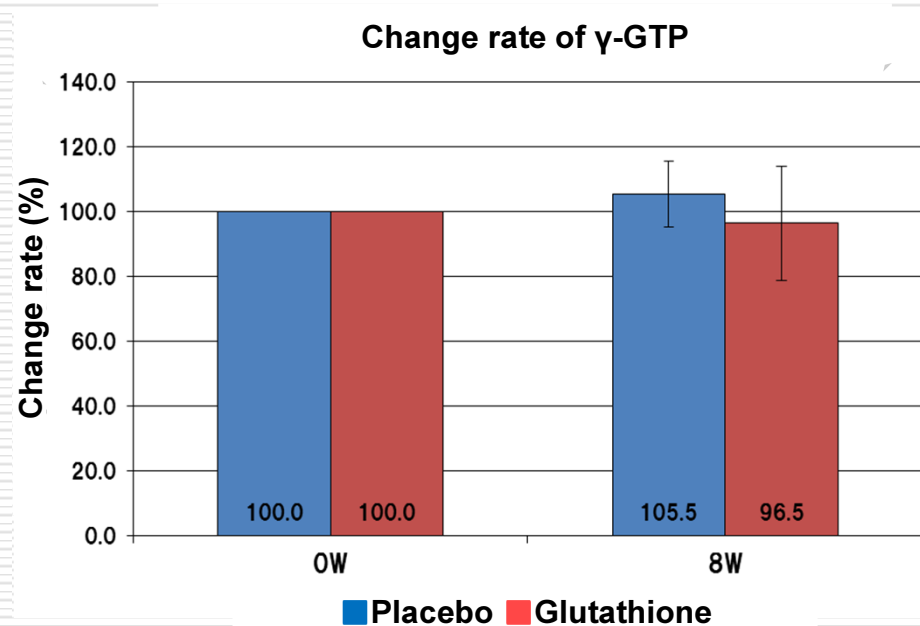
In-House Human Study (Liver Health)

- ❑ Glutathione reduced AST level significantly.
- ❑ Glutathione also reduced ALT level significantly.



In-House Human Study (Liver Health)

- ❑ Glutathione has a tendency to improve γ -GTP level.

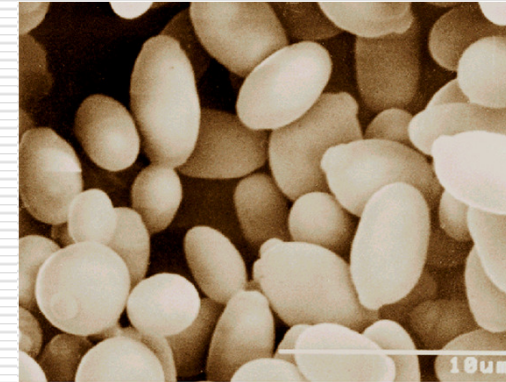


- ❑ Glutathione improve liver function significantly!!

KOHJIN **lutathione** is world No.1 share

Kohjin's L-Glutathione is...

- US FDA GRAS Notice (#GRN 000293)
- KOSHER Certified by "OK"
- HALAL Certified by "MUI"



(for Muslims such as Indonesia, Malaysia, Middle East...)

- Non-GMO Product
- Fermented from FDA Approved Yeast (Torula Yeast)
- No Adverse Report on Drug Compatibility

Kohjin is...

- Leading Manufacture of Glutathione since 1968
- ISO Certified / GMP approved

(Product Example)



The consumer awareness of Glutathione is very high in South East Asia as a whitening ingredient, and also in Japan, Korea, China as a Detoxifier/Anti Hung-over/Liver Health.
