

## GLCE

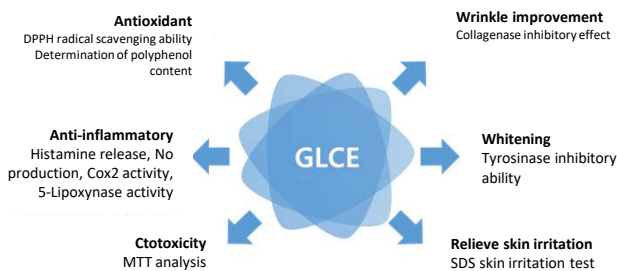
A cosmetic ingredient that has excellent anti-inflammatory and anti-allergic effects to relieve skin rashes and irritation



### Highlight ingredients and recommendations

- Functional cosmetic ingredient developed by liquefying Bendu-381.
- Can be used in functional cosmetics to relieve rash or inflammation caused by atopy or allergies.
- Applicable to prevent expected side effects or rashes by general cosmetics.
- Applicable to hair/body care cleanser, facial mask, etc.
- Recommendation: 0.5~5% (v/v)

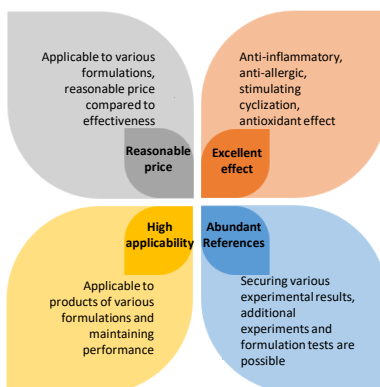
### Specialty of product



- High antioxidant effect that effectively removes active oxygen such as DPPH.
- It suppresses the release of histamine and generation of nitric oxide from mast cells, as well as inhibiting leukotriene synthetase (5-Lipoxygenase), thereby showing strong anti-allergic effects.

- Wrinkle improvement and whitening effect through the inhibitory effect of collagenase (enzyme that promotes collagen breakdown) and tyrosinase (melanin synthetase).

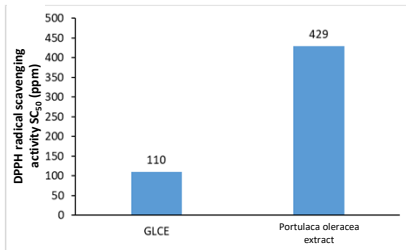
### About the Product



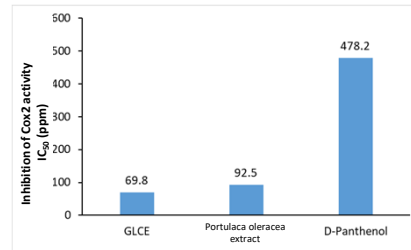
- Excellent anti-inflammatory effect through high inhibitory effect on inflammatory factors (IL-1 $\beta$ , IL-6 and TNF- $\alpha$ ) and inflammation inducing enzyme (COX-2)
- Inhibits release of histamine from compound 48/80-activated mast cells and effectively suppresses the production of nitric oxide by reducing the expression of iNOS, an inflammatory mediator.
- Consisting of natural food ingredients (Liquid Bendu-381), there are no side effects. Although the anti-inflammatory effect is not as strong as that of steroids, it has an anti-inflammatory effect that is superior to *Portulaca oleracea* extract, Bisabolol, or D-Panthenol.



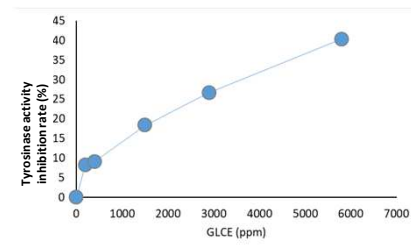
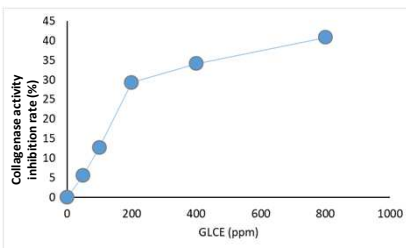
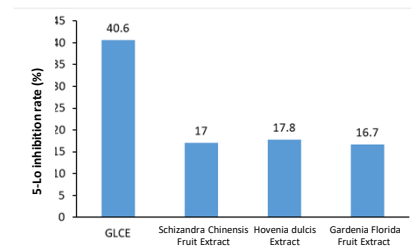
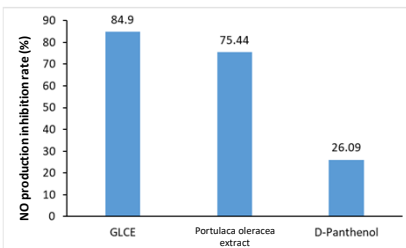
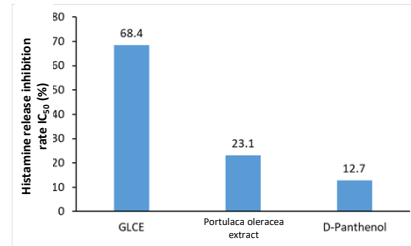
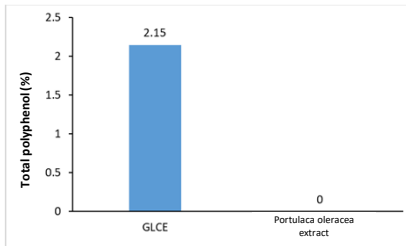
## Result



SC<sub>50</sub>: Concentration required to remove 50% of free radical



IC<sub>50</sub>: Concentration required to remove 50% of enzyme activity



## Skin test Result

Score	Mark	Symptom
0	-	No response
1	+	Faint erythema
2	++	Erythema, infiltrate, papule
3	+++	Erythema, infiltrate, papule, vesicles formation
4	++++	Erythema, infiltrate, papule, irregular blister formation

Group	Sample
A	0.3% Sodium Dodecyl Sulfate
B	0.3% Sodium Dodecyl Sulfate + 1.5% GLCE



- SDS may cause irritation in contact with skin. Therefore, it is used in small quantities in the manufacture of soaps, toothpastes and shampoos.
- As a result of applying 0.3% Sodium Dodecyl Sulfate to the skin for 24 hours, **itching and erythema were reduced in the 1.5% GLCE-containing group (B)** compared to the placebo group (A).

