

Natural · Efficient · Safe



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Imdermalab[®] Tea Gem



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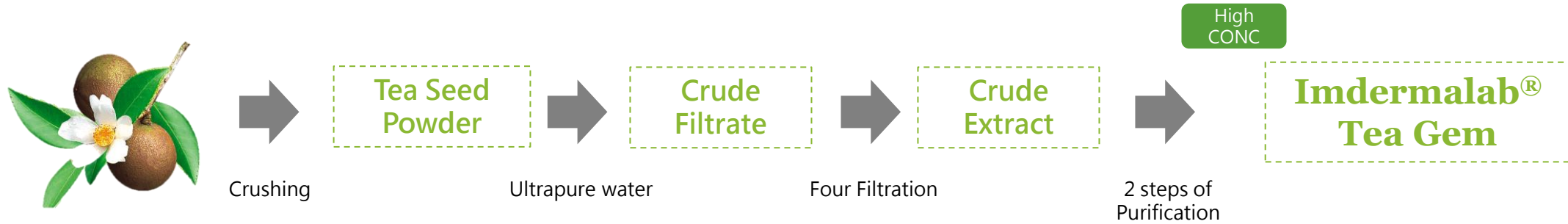
Natural Surfactant

「Eastern Tea Gem」 --- the seed of *Camellia Oleifera*






Extracted from the seed of edible *Camellia Oleifera* by ImDerma Lab 's exclusive green extraction technology to obtain high-purity tea saponin derivative, is a natural non-ionic surfactant, has excellent foaming ability regardless of the impact of water hardness. Simultaneously it has mild and gentle cleaning result and environmentally friendly since it' s easy to degradation in the environment after using. Mild acidic pH, excellent skin-friendly. Protect the epidermal membrane because of the polysaccharide content to provide moisturizing effect. In addition, studies have shown that tea saponin has a good anti-inflammatory, antibacterial, anti-dandruff and anti-itch effect.





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Manufacturing Method



◆ Comparison of Extraction Techniques

Molecular Sieve Tech	V.S	Traditional Extract
High 	Efficiency	Low
High 	Concentration level of active	Low
Low 	Temperature	Mostly high temp.
No 	Harmful solvent	Yes
No 	Irritation	Mostly irritate skin

-  Exclusive extraction technology is the first use in extracting natural plant
-  Preserve biological activity with low-temperature extraction process
-  Unique separation technology isolates highly pure active fraction from plant extract
-  Eco-friendly green extraction: Reduce energy consumption and low environmental impact

The purity of Tea Saponin Content by HPLC Analysis

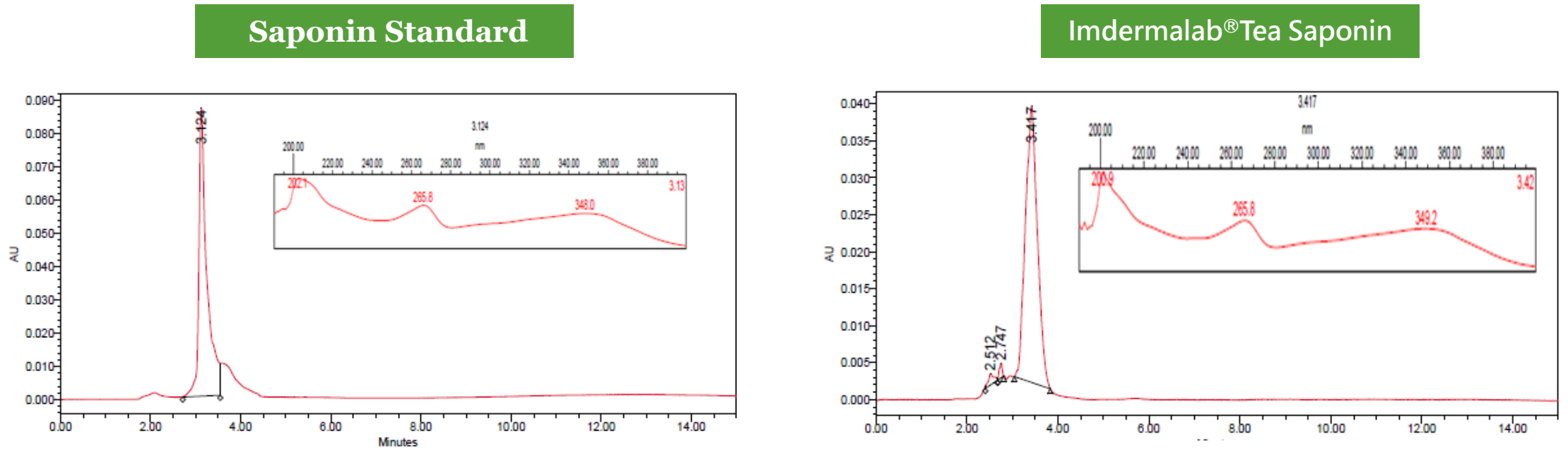
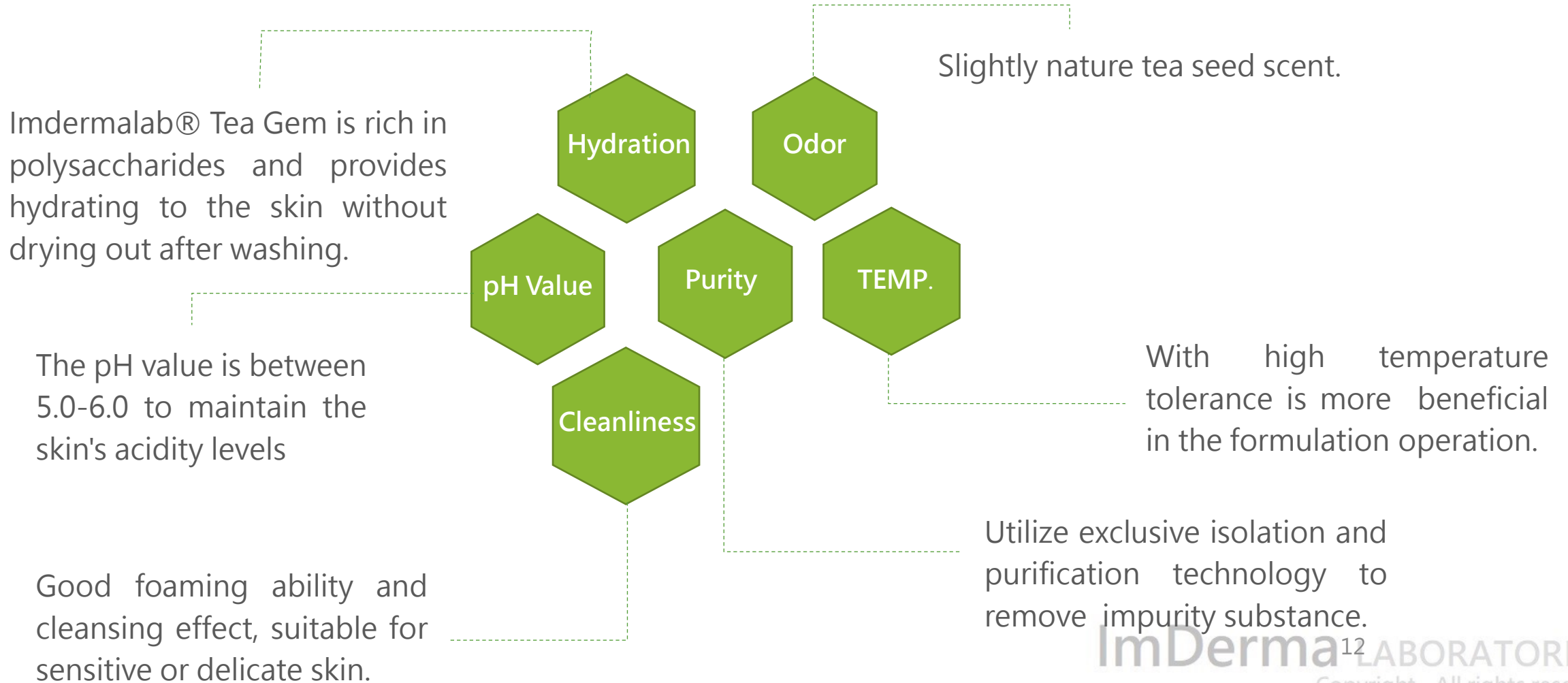


Figure 1. Chromatograms of (A) Standard Saponin Sample and (B) Imdermalab[®] Tea Gem. The percentage of permeated saponin from the extract was calculated according to Eq. derived from a calibration curve and expressed as percentage based on the weight of raw material.

Physical and Chemical Indicators



Indermalab® Tea Gem – Foaming performance

Rich and Gentle Foaming

- Indermalab® Tea Gem has quick foaming ability, generating rich and strong bubbles which has long lasting feature.

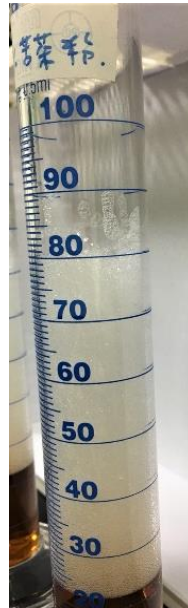
Before shaking



After shaking 20 times



1 hour after shaking



T=0

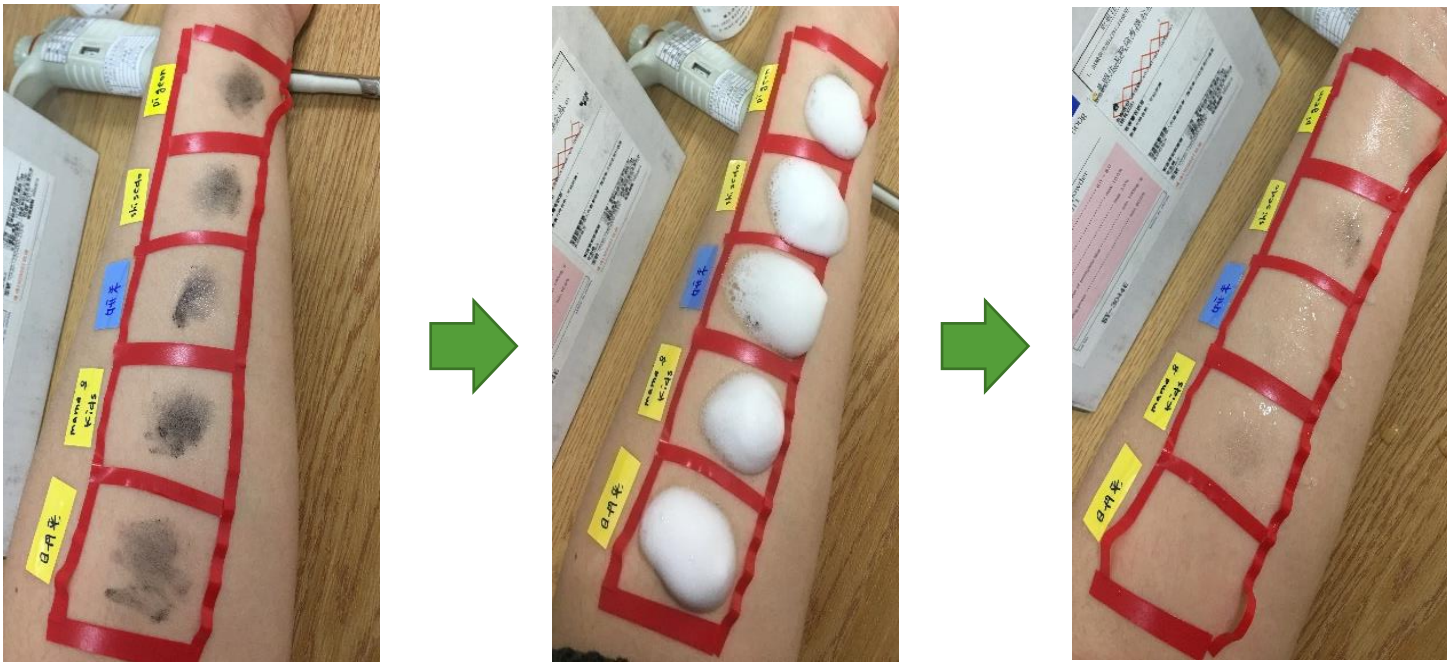
T=30



Indermalab® Tea Gem – Cleansing performance test

Excellent cleansing performance, easily remove oil and dirt

- Triglycerides was applied to simulate skin sebum and activated carbon mimicking dirt to observe the cleansing effect of oil and dirt removal. The test showed that Indermalab® Tea Gem has excellent cleansing performance and can quickly remove excess oil and dirt from the skin.



Imdermalab® Tea Gem - Safety assessment experiment

Non-Sensitizer Result

- The mean of cysteine and lysine % depletion of Imdermalab® Tea Gem was calculated to be 6.23%, which is predicted as “Non-sensitizer” according to OECD 442C DPRA prediction model (Table 1)

Table 1. OECD 442C DPRA prediction model

Mean of Cysteine and Lysine % Depletion	Reactivity Class	Prediction
0% < Mean % Depletion < 6.38%	Minimal Reactivity	Non-sensitizer
6.38% < Mean % Depletion < 22.62%	Low Reactivity	Sensitizer
22.62% < Mean % Depletion < 42.47%	Moderate Reactivity	Sensitizer
42.47% < Mean % Depletion < 100%	High Reactivity	Sensitizer

- The testing principle of Direct Peptide Reactivity Assay (DPRA) : The residual concentration of peptides containing Cysteine peptides (Ac-RFAACAA-COOH) or Lysine peptides (Ac-RFAAKAA-COOH) was determined after 24 hours of interaction with the test chemical at room temperature to determine whether it caused skin sensitization.

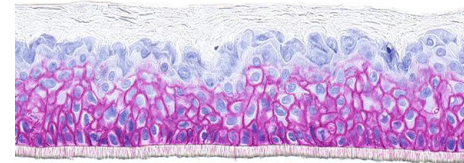
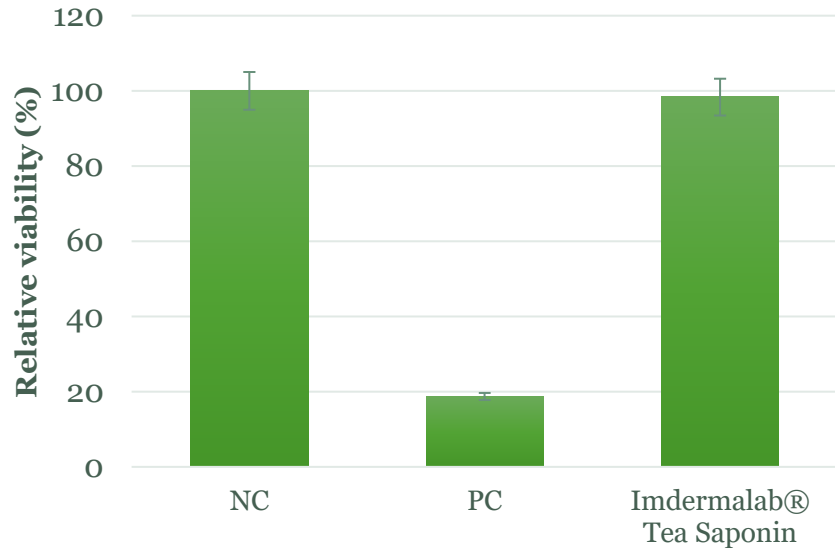
	CONC.	Lysine depletion(%)	Cysteine depletion(%)	Average depletion (%)	Sensitization category
Cinnamaldehyde (PC)	100 mM	62.19	80.00	71.095%	Sensitizer
Lactic acid (NC)	100 mM	0	0	0	Non-sensitizer
Imdermalab® Tea Saponin	0.1 %	11.18	1.28	6.23	Non-sensitizer

Imdermalab® Tea Gem - Safety assessment experiment

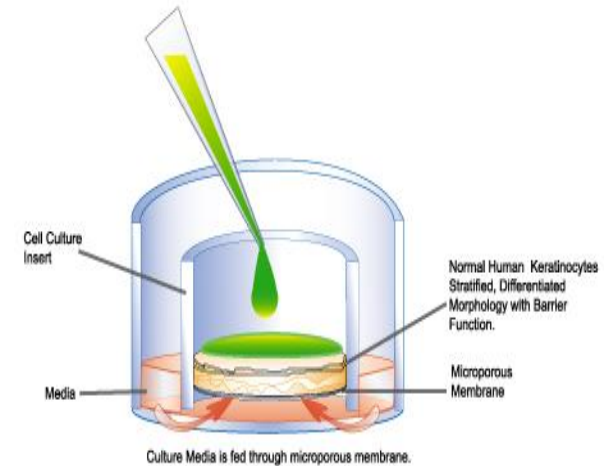
Non-irritant Result

- According to the OECD TG 439 skin irritation test interpretation model, the Imdermalab® Tea Gem test sample **does not have skin irritation**.

SkinEthic™ Skin Irritation Test



ACCEPTANCE CRITERIA (OECD 439)	
$1.2 \leq OD_{570}$ of NC, $SD \leq 18\%$ PC < 40 % of NC, $SD \leq 18\%$ SD of TS $\leq 18\%$	
In vitro result	In vivo prediction
mean tissue viability $\leq 50\%$	Category 2: Irritant
mean tissue viability $> 50\%$	No Category





Imdermalab[®] Tea Gem

- Natural non-ionic surfactant
- Long-lasting foam features up to 1 hour without drying after washing
- Weakly acidic pH, mild & gentle to skin, maintaining healthy skin barrier
- Anti-inflammatory, antibacterial, anti-dandruff and anti-itch benefits
- Passed safety test. No skin irritation and no skin sensitization
- Application : maternal and infant products · hair shampoo and body wash product for every type of skin



Imdermalab[®] Tea Gem

INCI NAME	Camellia Oleifera Seed Extract
Form	Liquid
Appearance	Clear and brown
pH Value	5.0-6.0
Usage	5%-25%
Storage	Room temperature and avoid sunlight



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