



ImDerma
LABORATORIES

BioScience Integrated Platform

We offer one-stop solution from
customized ingredient development to industry
application.



Imdermalab[®] X-EGCG

INCI: Epigallocatechin Gallatyl Glucoside (and) sh-Decapeptide-5 SP (PCPC INCI)

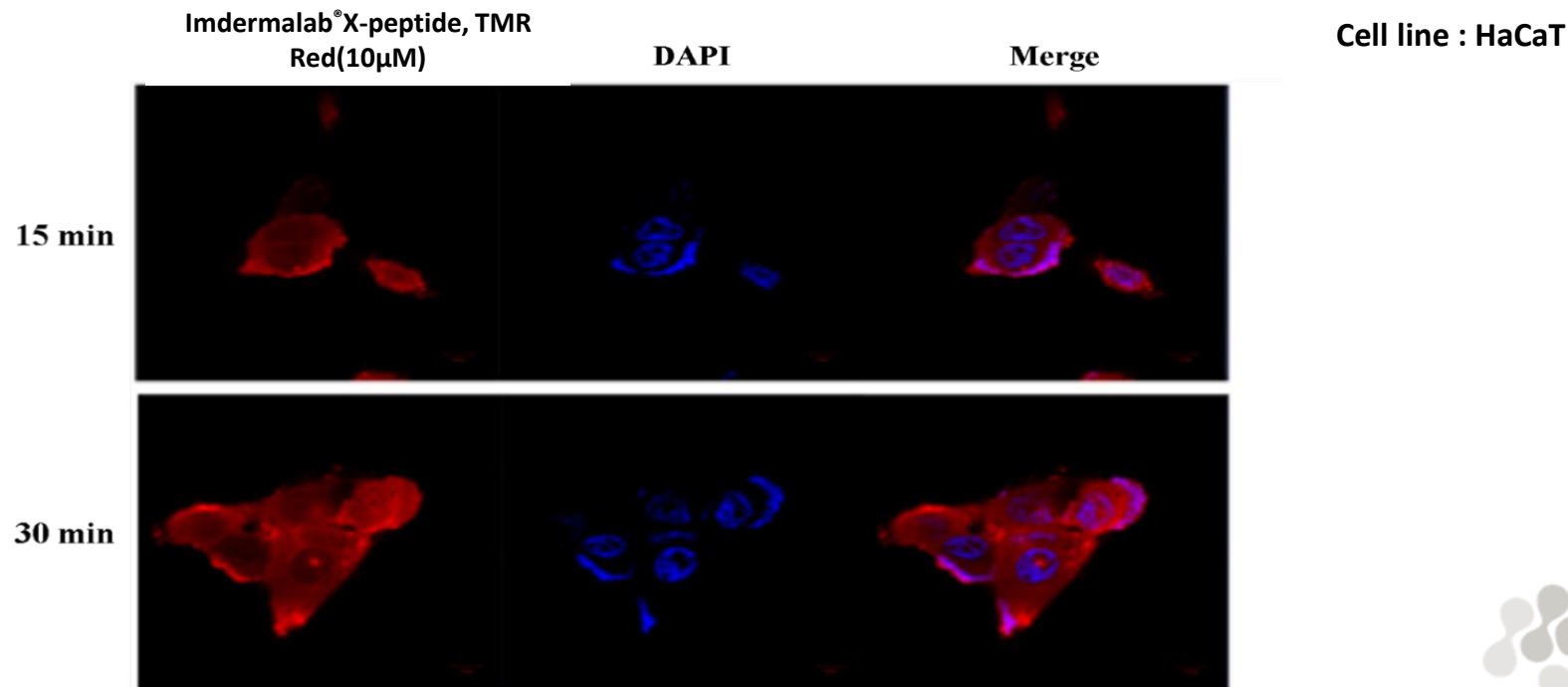
- **Innovative combination of highly efficient intracellular delivery system & powerful natural anti-oxidant**
- **Penetrate to cell within 15 minutes**
- **No skin irritation and sensitization reaction**
- **2020 Cosmetic Victories Finalist**



Penetrate to the cell within 15 minutes

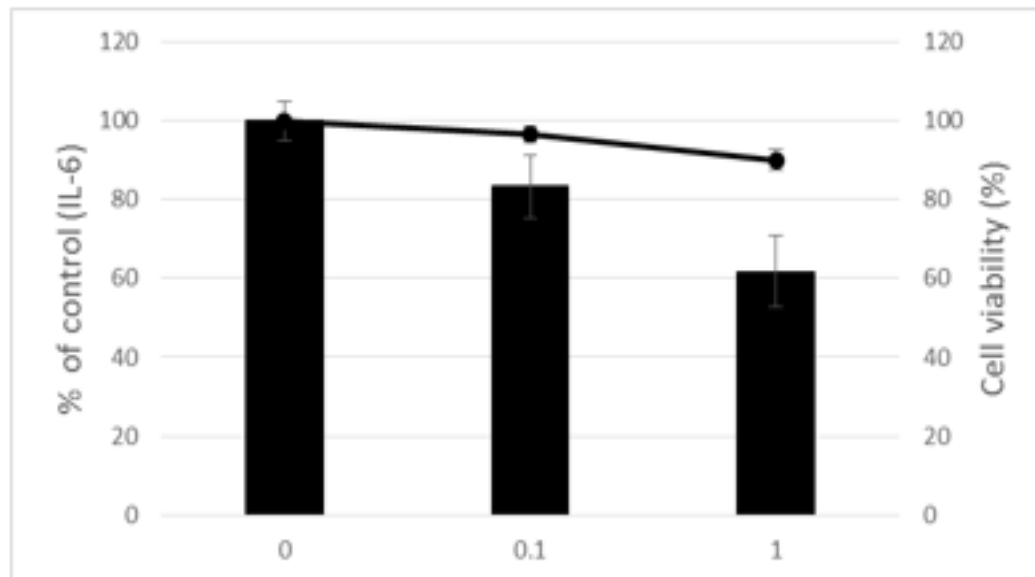
X-peptide, is derived from the **heparin binding motif in the sequence of the human Eosinophil cationic protein.**

Through fluorescent staining experiments, it is confirmed that the X-peptide can penetrate the epidermal cells within 15 minutes through its **internalization.**

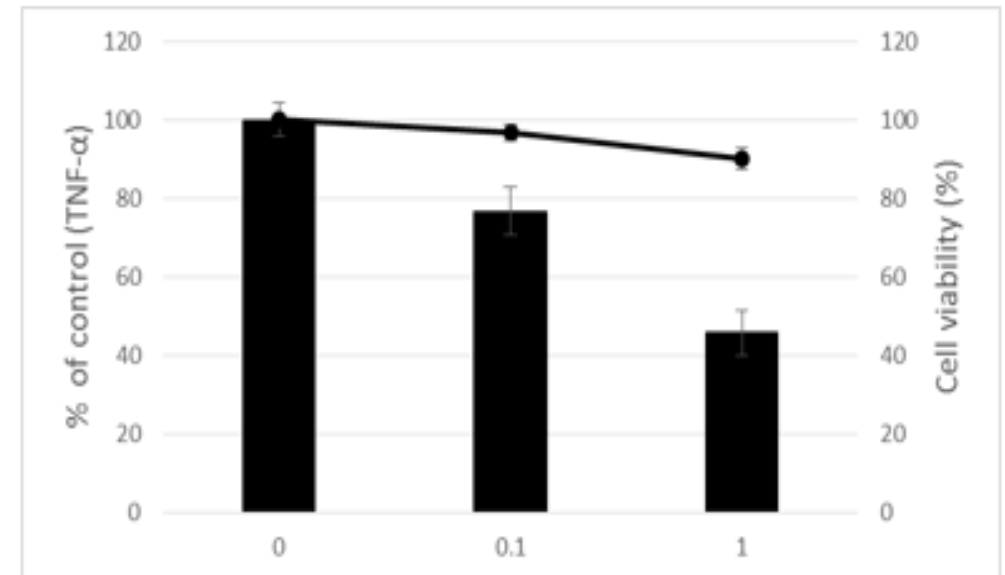


Anti-inflammation

Experiments have confirmed that Imdermalab[®] X-peptide delivery system has the immunomodulatory effect of inhibiting IL-6 and TNF- α and reducing the production of inflammation.



Inhibition of IL-6 (μM)



Inhibition of TNF- α (μM)

Epigallocatechin Gallatyl Glucoside

E G C G



[Int J Mol Sci](#) 2018 Jan; 19(1): 173.
Published online 2018 Jan 6. doi: [10.3390/ijms19010173](#)

PMCID: PMC5796122
PMID: [29316635](#)

Skin Protective Effect of Epigallocatechin Gallate

[Eunji Kim](#)^{1,†}, [Kyeonghwan Hwang](#)^{2,†}, [Jongsung Lee](#)^{1,†}, [Sang Yun Han](#)¹, [Eun-Mi Kim](#)², [Junseong Park](#)^{2,*} and [Jae Youl Cho](#)^{1,*}

EGCG increased the expression of all NMF-related genes without cytotoxicity. Our results suggested that EGCG upregulates *FLG*, *TGM1*, *HAS-1*, and *HAS-2* in keratinocytes, thereby

providing **moisture** to the epidermis layer, which can maintain the skin barrier more firmly.

Under UV irradiation, EGCG reduced cellular damage and the expression levels of HYALS. EGCG inhibited the degradation of HA in the epidermis by reducing the level of HYAL expression, and **increased the hydration retention capacity** of the skin barrier.

These results showed that EGCG **regulates melanin pigmentation** and might be used as a **whitening** ingredient in cosmetics.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5796122/>



Review

Beneficial Effects of Green Tea EGCG on Skin Wound Healing: A Comprehensive Review

Fa-Wei Xu^{1,†}, Ying-Li Lv^{2,†}, Yu-Fan Zhong¹, Ya-Nan Xue¹, Yong Wang¹, Li-Yun Zhang¹, Xian Hu¹ and Wei-Qiang Tan^{1,*}

- ¹ Department of Plastic Surgery, Sir Run Run Shaw Hospital, Zhejiang University School of Medicine, 3 East Qingchun Road, Hangzhou 310016, China; xufawei@zju.edu.cn (F-W.X.); 12018261@zju.edu.cn (Y-F.Z.); xueyanan2020@zju.edu.cn (Y-N.X.); wongyong@zju.edu.cn (Y.W.); 18868735326@163.com (L-Y.Z.); huxiandvg@163.com (X.H.)
- ² Tea Research Institute, College of Agriculture and Biotechnology, Zhejiang University, Hangzhou 310013, China; 3180100543@zju.edu.cn
- * Correspondence: tanweixxx@zju.edu.cn
- † These authors contributed equally to this work.

file:///C:/Users/User/Downloads/molecules-26-06123.pdf

Polyphenolic antioxidant (-)-epigallocatechin-3-gallate from green tea reduces UVB-induced inflammatory responses and infiltration of leukocytes in human skin

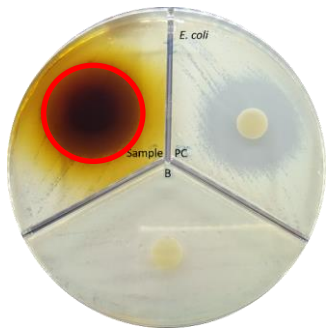
S K Katiyar¹, M S Matsui, C A Elmetts, H Mukhtar

Affiliations + expand
PMID: 10048310

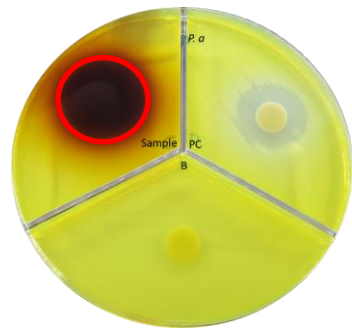
<https://pubmed.ncbi.nlm.nih.gov/10048310/>

Epigallocatechin Gallatyl Glucoside

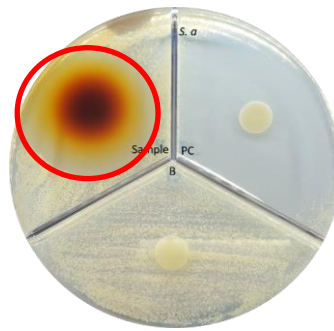
Effectively inhibit the five major pathogens and *Propionibacterium acnes*



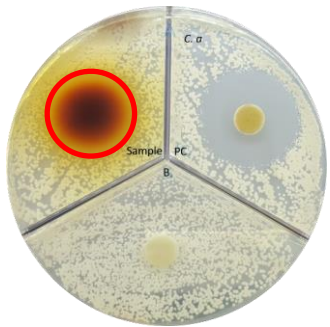
Escherichia coli



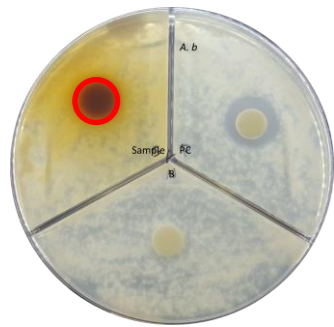
Pseudomonas aeruginosa



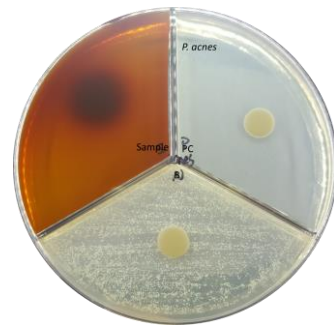
Staphylococcus aureus



Candida albicans



Aspergillus brasiliensis



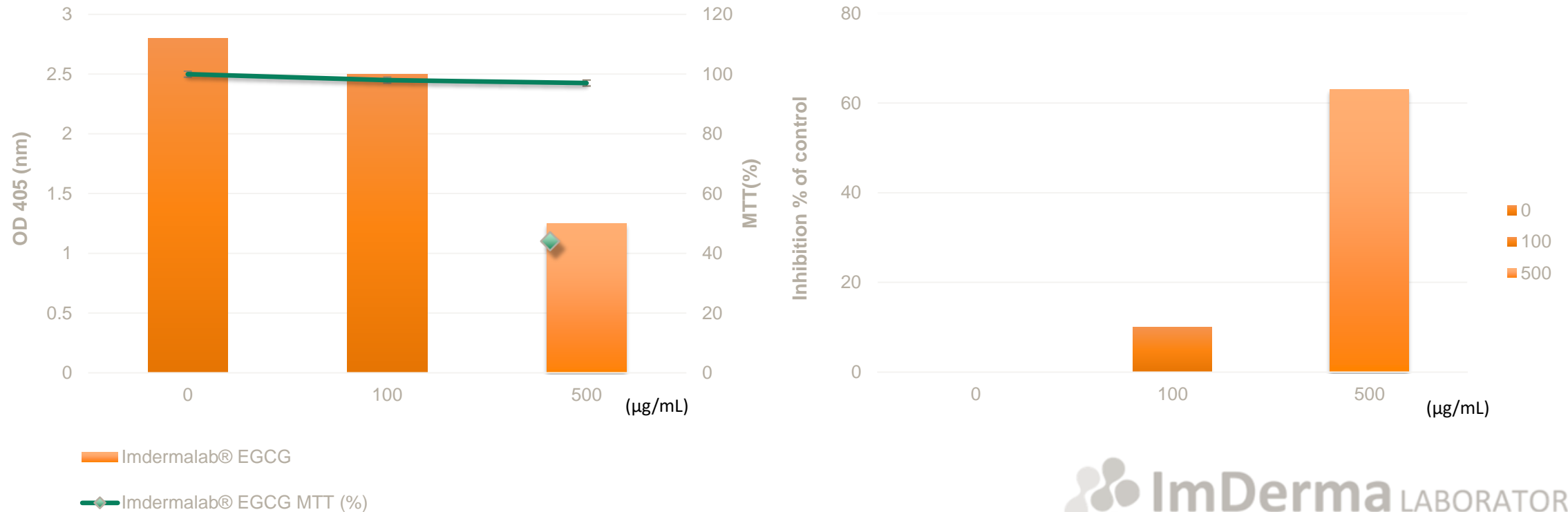
Propionibacterium acnes

- As the experimental result by ImDerma Biosafety Level 2 Laboratory, Indermalab[®] EGCG effectively inhibit the five major pathogens such as *Escherichia coli*, *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Candida albicans* and *Aspergillus brasiliensis*.
- Acne (acne, pimples, comedo, acne) is related to the excessive breeding of acne bacteria. Experiments have confirmed that Indermalab[®] EGCG has a significant inhibitory effect on *Propionibacterium acnes*.

Imdermalab® EGCG - Cell Degranulation Assay

Anti-Allergy Potential

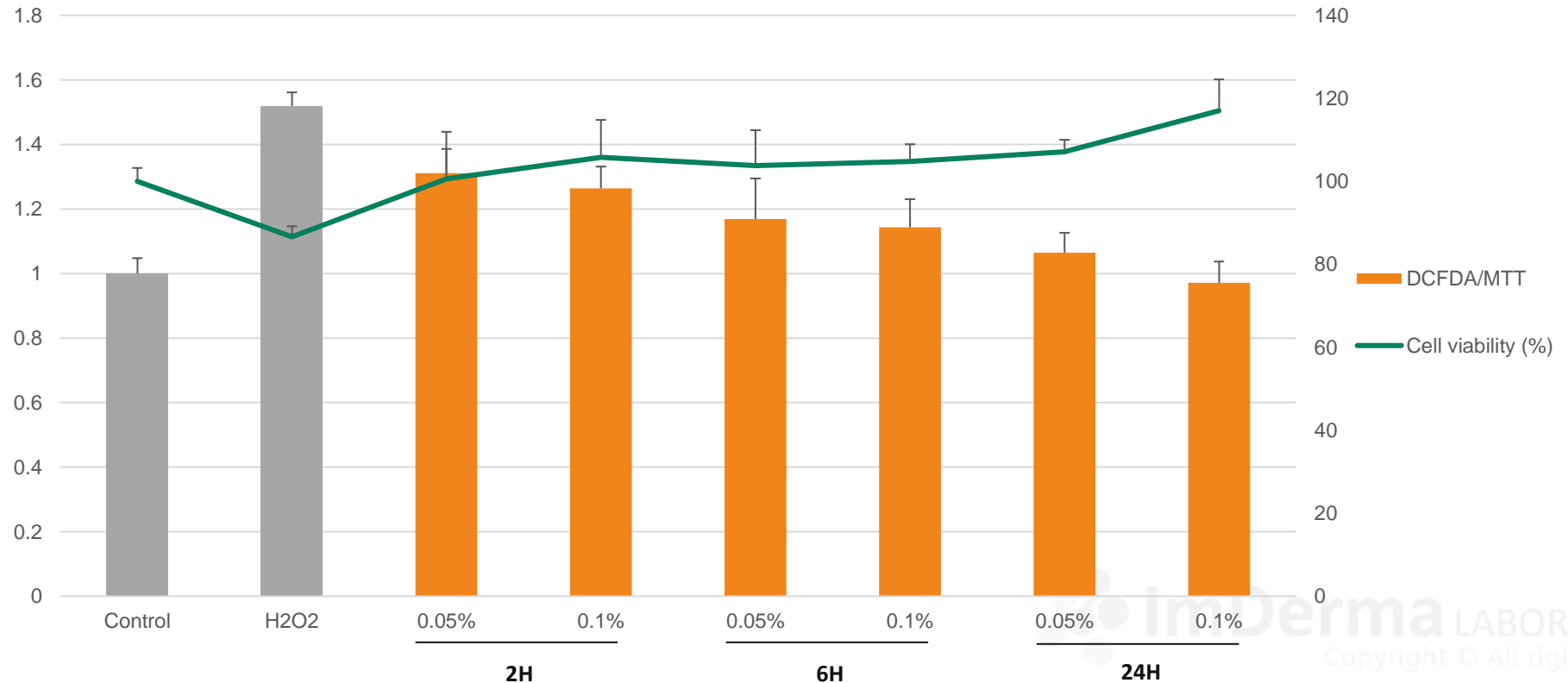
- The result from sensitization analysis by using the Mast Cell activation test can inhibit β -hexosaminidase release induced by anti-IgE without cytotoxicity.



Indermalab® EGCG – Antioxidant Assay

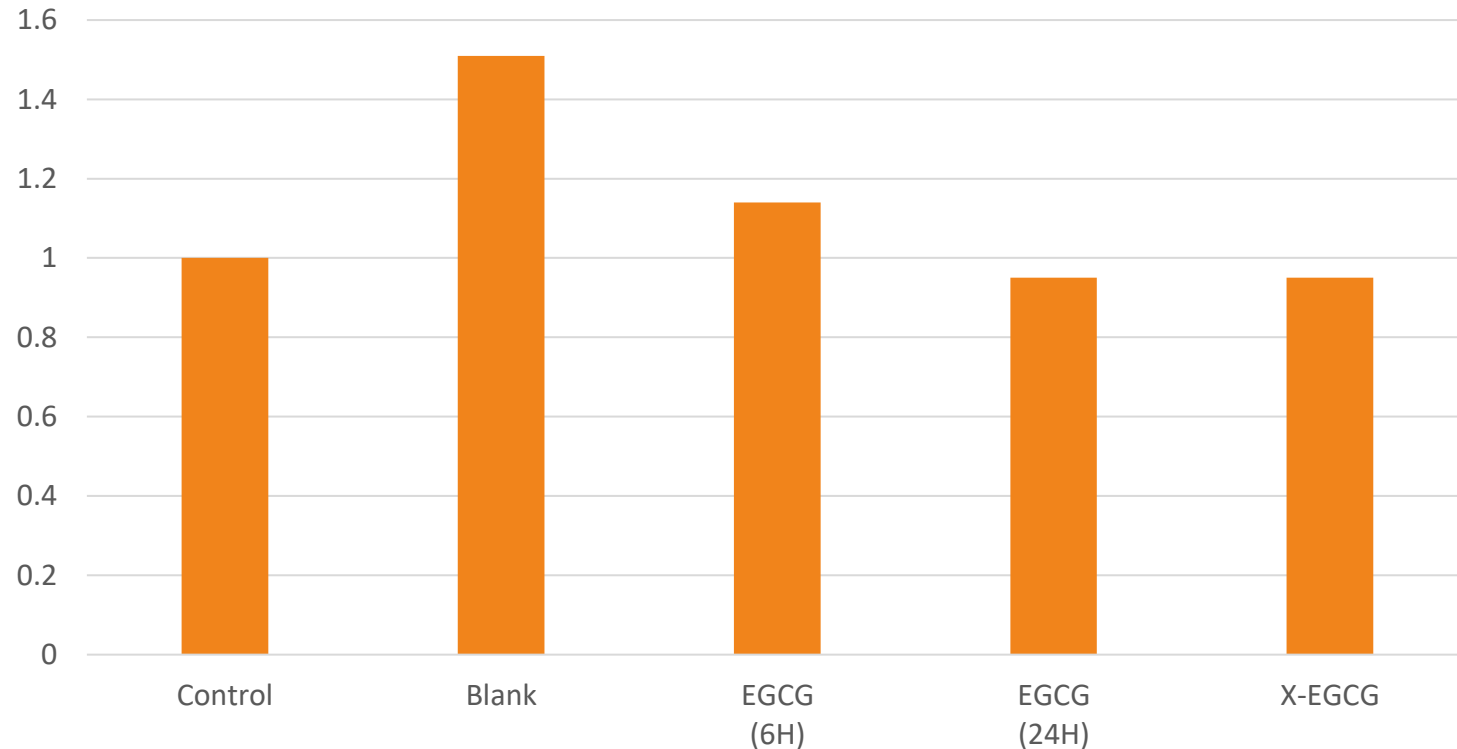
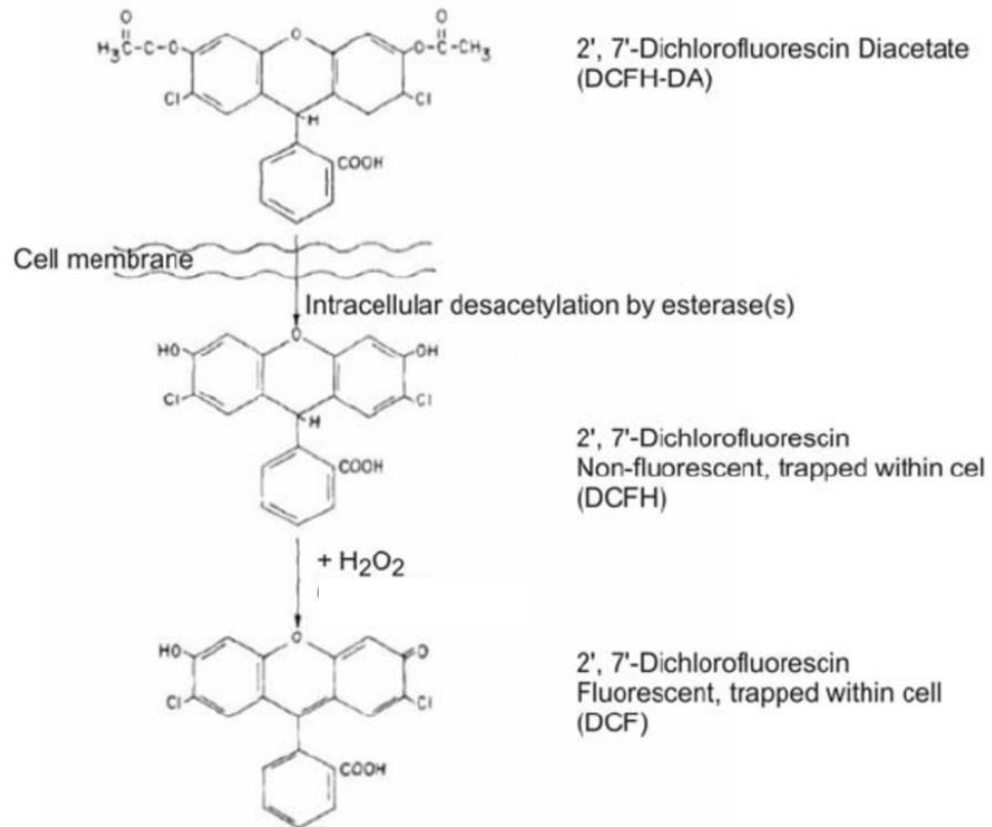
Intracellular ROS scavenging capacity in 24 hours rapidly

- The experimental result shows Indermalab® EGCG effectively reduce intracellular reactive oxygen species (ROS) and completely remove intracellular ROS after 24 hours. With only a small amount for optimal antioxidant effect.



Imdermalab® X-EGCG Intracellular Anti-oxidant Ability

**With X-peptide eliminate intracellular ROS less than 1 hour,
24 times faster than pure EGCG.**

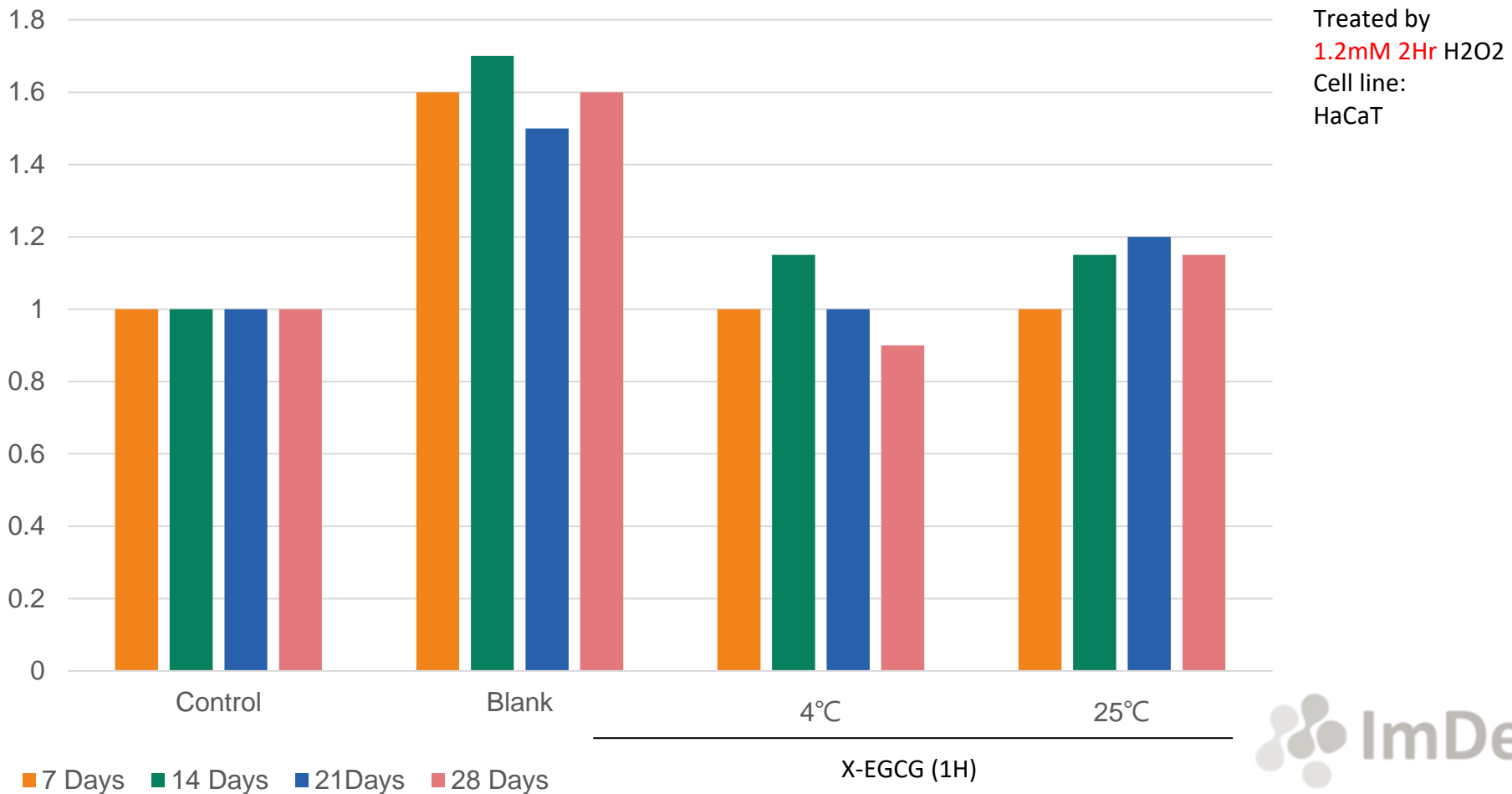


■ Treated by 1.2mM H₂O₂

Cell line: HaCaT

Imdermalab® X-EGCG Anti-oxidant Ability Stability Test

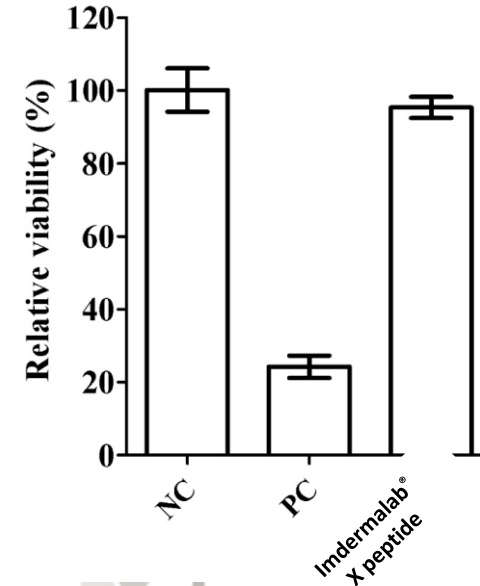
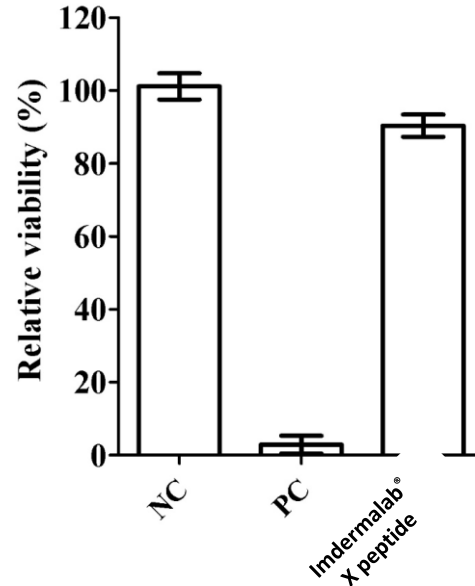
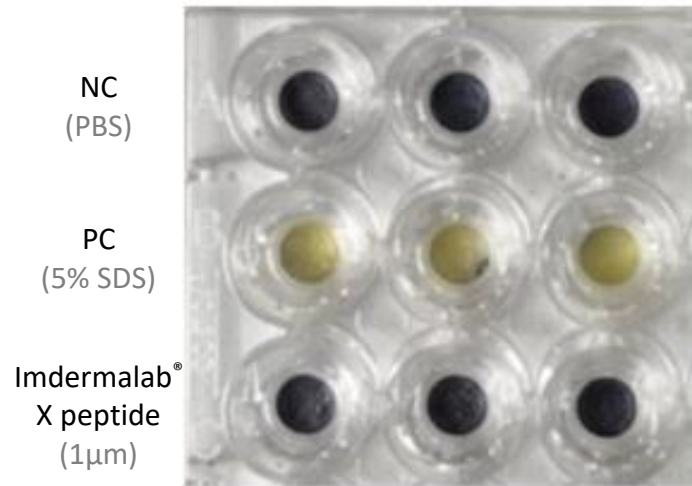
X-EGCG is stable at room temperature



Indermalab[®] X-EGCG

Safe to use on skin

Non-irritant and non-sensitizer under OECD TG 439 & 442C guidelines





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We offer one-stop solution from
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ImDerma Laboratories Co., LTD



5F., No.5, Ln. 91, Dongmei Rd., East Dist., Hsinchu City 300, Taiwan
(R.O.C)



+886-3-575-2901



info@imdermalab.com.tw