

## SimDerma® Platform Portfolio

SimDerma® is an in vitro multiparametric platform that includes 30 key dermocosmetic targets, which are offered in two packs: Standard Screening and Advanced Screening (please see the back page).



SimDerma® platform is very competitive in cost and time and it can advise clients on cosmetic applications for its ingredients.

## SimDerma® Targets (\*Proprietary cell lines)

<b>Cytotoxicity:</b> NIH-3T3-NucLight-Red* or HaCaT-NucLight-Red* cells (Fluor.)	<b>Proliferation:</b> NIH-3T3-NucLight-Red fibroblasts* (Fluor. microscopy)	<b>Proliferation:</b> HaCaT-Nuclight-Red Keratinocytes* (Fluores. microscopy)
<b>MMP-9</b> in HaCaT (ELISA)	<b>NF-kB activity</b> in Fibroblasts or Keratinocytes (Luciferase assays)*	<b>IL-6 release</b> in Fibroblasts (ELISA)
<b>STAT3 activity</b> (Luciferase assay in RAW264-STAT3-Luc cells)	<b>PPAR<math>\gamma</math> activity</b> (Luciferase assay in 3T3-L1 cells)	<b>PPAR<math>\alpha</math> activity</b> (Luciferase assay in NIH-3T3 cells)
<b>Real-time wound healing</b> in Fibroblasts (NIH-3T3 cells)	<b>Real-time wound healing</b> in Keratinocytes (HaCaT cells)	<b>Nrf2 activity</b> (Luciferase assay in HaCaT-ARE-Luc cells*)
<b>Autophagy</b> in Keratinocytes (HaCaT) (Fluorescence assay)	<b>Induction of Filaggrin</b> in Keratinocytes (HaCaT-Filaggrin-Luc cells*)	<b>Cellular antioxidant activity</b> (Fluorescence assay in HaCaT cells)
<b>Total antioxidant activity</b> (DPPH assay)	<b>Glucose uptake</b> in Keratinocytes (Fluorescence assay in HaCaT cells)	<b>CB1 antagonistic activity</b> (Luciferase activity in HEK293-CB1-CRE.Luc cells*)
<b>CB2 agonistic activity</b> (Luciferase activity in HEK293-CB1-CRE.Luc cells*)	<b>TRPV-1 agonism</b> (Fluorescence in HEK293-TRPV-1 cells*)	<b>TRPV-1 antagonism</b> (Fluorescence assay in HEK293-TRPV-1 cells*)
<b>Tyrosinase activity</b> in Melanocytes (B16 cell line)	<b>Melanin Content activity</b> in Melanocytes (B16 cell line)	<b>MMP-1</b> in HaCaT (ELISA)
<b>HIF-1<math>\alpha</math> activation</b> (Luc assay in NIH-3T3-EPO-Luc/HaCaT-EPO-Luc cells*)	<b>HIF-1<math>\alpha</math> inhibition</b> (Luc assay in NIH-3T3-EPO-Luc/HaCaT-EPO-Luc cells*)	<b>Induction of Collagen gene expression</b> (NIH-3T3-COL1A2-Luc cells)
<b>PGE<math>_2</math> release</b> in Fibroblasts (ELISA)	<b>cAMP pathway</b> (Luciferase assay in CHO-CRE-Luc cells*)	<b>TIMP-1 release</b> in HaCaT (ELISA)

## SimDerma - Standard and Advanced Screenings with Applications

A comprehensive primary screening system has been developed to identify or to confirm biological activities for cosmetic and skin care products.

	Anti-Aging	Anti-Wrinkle	Anti-Cellulitis	Whitening	Moisturizer	Refirming	Hair Growth	SunCare	Sensitive Skin	Skin Repair
1. Cytotox. fibroblasts/keratinocytes*										
2. Proliferation in fibroblasts	✓	✓								✓
3. Proliferation in keratinocytes	✓				✓					✓
4. MMP-9 in HaCaT	✓	✓				✓				✓
5. Real-time Wound Healing (fibroblast)		✓								✓
6. Real-time Wound Healing (keratinocy.)	✓				✓					✓
7. NF-κB signalling fibrob./ keratinocytes	✓		✓		✓			✓	✓	
8. IL.6 in fibroblasts							✓	✓	✓	
9. STAT3 activity							✓			
10. PPAR <sub>γ</sub> activity		✓				✓				
11. PPAR <sub>α</sub> activity	✓				✓					
12. Nrf2 activity	✓				✓			✓		✓
13. Total antioxidant activity	✓			✓	✓			✓		
14. Cellular antioxidant activity			✓	✓	✓					✓
15. PGE <sub>2</sub> in fibroblasts				✓			✓	✓	✓	
16. Glucose uptake in keratinocytes	✓			✓	✓					
17. CB1 antagonistic activity							✓		✓	
18. CB2 agonistic activity	✓		✓							
19. TRPV-1 agonistic activity		✓				✓				
20. TRPV-1 antagonistic activity		✓						✓	✓	
21. Tyrosinase activity in melanocytes				✓				✓	✓	
22. Melanin synthesis in melanocytes				✓						
23. MMP-1 in HaCaT	✓	✓				✓				✓
24. Autophagy in keratinocytes	✓			✓						
25. HIF-1 <sub>α</sub> in keratinocytes			✓		✓	✓				
26. HIF-1 <sub>α</sub> in fibroblasts			✓			✓				
27. COL1A2 gene induction (fibroblasts)		✓				✓				✓
28. Fillagrin gene induction (keratinocy.)					✓			✓		
29. cAMP	✓	✓	✓		✓	✓	✓			✓
30. TIMP-1 in HaCaT	✓	✓				✓				✓

\* Required before targets 3, 4, 5, 6, 24 and 30

Standard Screening

Advanced Screening (Includes Standard Screening)

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