

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)*

Cytotoxicity: NIH-3T3-NucLight-Red* or HaCaT-NucLight-Red* cells (Fluor.)	Proliferation: NIH-3T3-NucLight-Red fibroblasts* (fluor. microscopy)	Proliferation: HaCaT-Nuclight-Red keratinocytes* (fluoresc. microscopy)
MMP-9 in HaCaT (ELISA)	NF-kB activity in Fibroblasts or Keratinocytes (Luciferase assays)*	IL-6 release in Fibroblasts (ELISA)
STAT3 activity (luciferase assay in RAW264-STAT3-Luc cells)	PPARγ activity (luciferase assay in 3T3-L1 cells)	PPARα activity (luciferase assay in NIH-3T3 cells)
Real-time wound healing in Fibroblasts (NIH-3T3 cells)	Real-time wound healing in Keratinocytes (HaCaT cells)	Nrf2 activity (luciferase assay in HaCaT-ARE-Luc cells*)
Autophagy in Keratinocytes (HaCaT) (Fluorescence assay)	Induction of Filaggrin in Keratinocytes (HaCaT-Filaggrin-Luc cells*)	Cellular antioxidant activity (Fluorescent assay in HaCaT cells)
Total antioxidant activity (DPPH assay)	Glucose uptake in Keratinocytes (Fluorescent assay in HaCaT cells)	CB1 antagonistic activity (Luciferase activity in HEK293-CB1-CRE.Luc cells*)
CB2 agonistic activity (Luciferase activity in HEK293-CB1-CRE.Luc cells*)	TRPV-1 agonism (fluorescence in HEK293-TRPV-1 cells*)	TRPV-1 antagonism (fluorescence assay in HEK293-TRPV-1 cells*)
Tyrosinase activity in Melanocytes (B16 cell line)	Melanin Content activity in Melanocytes (B16 cell line)	MMP-1 in HaCaT (ELISA)
HIF-1α activation (Luc assay in NIH-3T3-EPO-Luc/HaCaT-EPO-Luc cells*)	HIF-1α inhibition (Luc assay in NIH-3T3-EPO-Luc/HaCaT-EPO-Luc cells*)	Induction of Collagen gene expression (NIH-3T3-COL1A2-Luc cells)
PGE$_2$ release in Fibroblasts (ELISA)	cAMP pathway (luciferase assay in CHO-CRE-Luc cells*)	TIMP-1 release 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 _γ activity		✓				✓				
11. PPAR _α activity	✓				✓					
12. Nrf2 activity	✓				✓			✓		✓
13. Total antioxidant activity	✓			✓	✓			✓		
14. Cellular antioxidant activity			✓	✓	✓					✓
15. PGE ₂ 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 _α in keratinocytes			✓		✓	✓				
26. HIF-1 _α 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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