

Claim the Anti-Irritation Power of Your Product

With CTISKIN by CTIBIOTECH, validate the curative or preventive anti-irritation potential of your ingredient/product using advanced human cell and tissue models.



Cost-effective

Fast and effective. Test a high number of conditions in a limited time and at affordable costs.



Ethical

All our human biological samples are collected from informed living donors with ethical consent, respecting international regulatory standards.



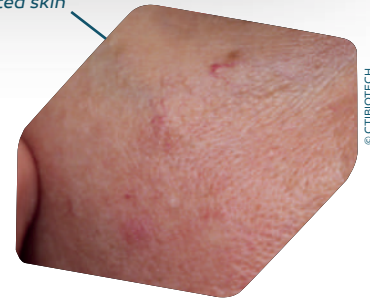
Scientific

Advanced 2D, 3D, and Ex-vivo technologies for high reproducibility and environment control.

Why CTIBIOTECH

At CTIBIOTECH, we lead the world as the first company to produce 3D bioprinted skin capable of replicating any skin type. Backed by triple accreditation from the French Ministry of Research (AC-2023-5886, IE-2020-1119 and DC-2023-5900), we specialize in skin collection, cell amplification, and 3D printing. From donor selection to scientific publication, we provide end-to-end support to bring your project to life and showcase your product.

Irritated skin



© CTIBIOTECH

Ex Vivo

3D
Bioprinted

2D
Culture



Donor
selection
criteria

+



Chemical
irritation

=



Readouts

CMA

HES

CBA

Ensuring Cosmetic Safety: Evaluating Skin Irritation Potential Through In Vitro Testing

Accurate safety and performance testing is essential for cosmetic and personal care product development in today's regulatory environment. CTISKIN™ offers a range of Ex vivo and In vitro skin irritation tests for a robust and reliable approach. Our technologies aim to mirror human skin's complexity to ensure precise predictions of irritation responses. These methods not only meet regulatory requirements but also pave the way for innovative product formulations while adhering to ethical best practices. CTISKIN™ experts will support the design of your product's anti-irritation properties evaluation using standardized ex vivo / in vitro skin irritation protocols.

Samples

Ex Vivo	CTISkin™Ex vivo kit : standardized & ready-to-use skin biopsies collected immediately after surgery, that can be used for up to 11 days post surgery for all ex vivo skin bioassays.
	CTIBabySkin™Ex vivo kit : World first ethical baby skin model made from umbilical cord collected after birth to evaluate products for infants and young children.
	CTISkin™Haircare : scalp discs biopsies evaluating certain proteins involved with hair maintenance and growth; <ul style="list-style-type: none"> ▪ Micro-dissected hair follicles grown in culture in 3D.
2D Culture	CTISkin™ Single Donor Kit : From 2 to 6 human skin cell types from the same donor (keratinocytes, fibroblasts, adipocytes, sebocytes, melanocytes, blood/immune cells). Different Human cell types from skin pre-clinical grade production by biomedical scientists with over 30 years experience.
3D Bioprint	CTISkin™ MultiSkin : 3D-Bioprinted full skin models: a unique bioprinting platform to produce hundreds artificial skin models (dermis & epidermis) from the same donor skin cells. Over 10 years of extensive R&D nurtured this powerful & flexible technology to screen ingredients, finished products or for preclinical high throughput efficacy evaluation.

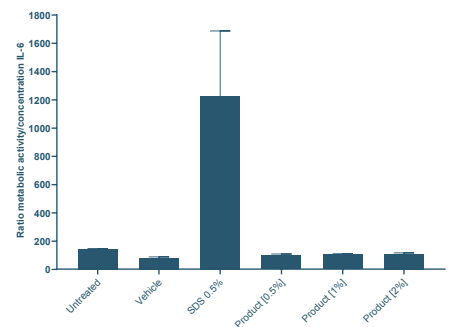
Readouts

- **Cellular metabolic activity assay (CMA)** to investigate live at any time points the overall health of cells and tissues with and without stress and products.
- **Haematoxylin, Eosin, and Saffron (HES)** high definition bioimaging to visualize the global morphology of the tissues. This can be supplemented with additional skin biomarkers investigation (immunohistochemistry/fluorescence).
- **Cytometric Bead Array (CBA)** to quantify up to 32 inflammatory cytokines in a single test.

Results

Ex Vivo skin models displayed a good structure and viability after 6 days of culture. The dermal /epidermal junction (DEJ) was defined, separating organized differentiated keratinocytes from fibroblasts distributed in the dermal matrix with keratinocytes becoming denser at the DEJ.

As expected, the SDS irritation control showed a strong increase in cytokine production compared to untreated control, whereas tested products did not induce significant irritation.



Price

Models	2D cell culture (fibroblasts)	Ex-vivo biopsies (1 donor)	3D Multiskin model (fibro + kerat)
Application/tests	3 controls + 5 applications tests	3 controls + 5 applications tests	3 controls + 5 applications tests
	3 replicates 1 cell type	3 replicates 1 donors	3 replicates 1 type of model
Conditions	24 conditions	24 conditions	24 conditions
Readout	CMA + HES + CBA	CMA + HES + CBA	CMA + HES + CBA
Price (ex VAT)	From 11 700€	From 12 100€	From 17 100€

Claim the power of your Skin-care Products For Oily Skin

With CTISKIN™ by CTIBIOTECH™, evaluate how your product regulates sebum product with a curative or a preventive effect using our seborrhic assay on advanced human cell and tissue models.



Cost-effective

Fast and effective. Test a high number of conditions in a limited time and at affordable costs.



Ethical

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Scientific

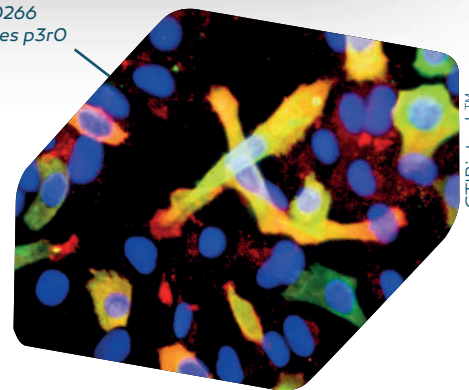
Advanced 2D, 3D, and Ex-vivo technologies for high reproducibility and environment control.

CTIBiotech™, skin

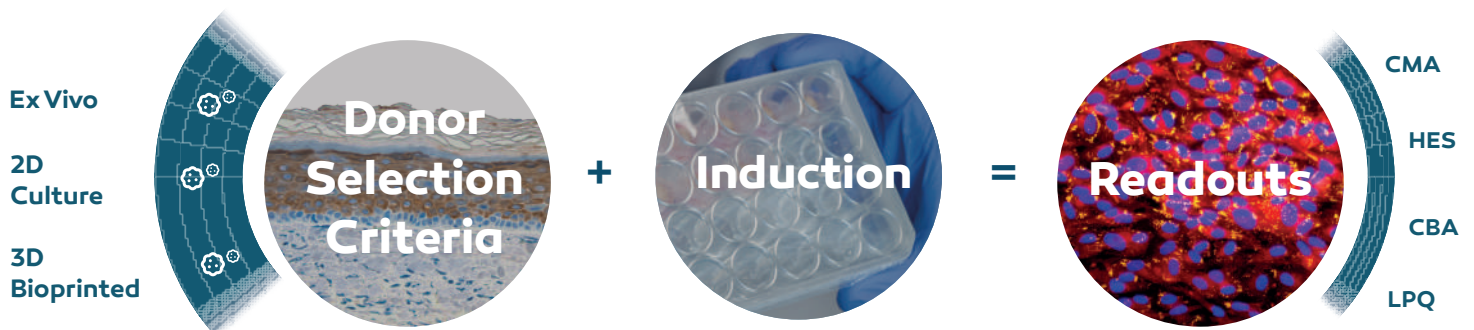
Why clients chose Our product

At CTIBIOTECH, we lead the world as the first company to produce 3D bioprinted skin capable of replicating any skin type. Backed by triple accreditation from the French Ministry of Research (AC-2023-5886, IE-2020-1119 and DC-2023-5900), we specialize in skin collection, cell amplification, and 3D printing. From donor selection to scientific publication, we provide end-to-end support to bring your project to life and showcase your product.

Fluo sk0266 sebocytes p3r0 thawed



CTIBiotech™



Ensuring Cosmetic efficacy: Evaluating impact on sebum production Through In Vitro Testing

CTISKIN™ offers a range of Ex vivo and In vitro skin seborrhoeic tests for a robust and reliable approach. Our technologies aim to mirror human oily skin's complexity to ensure precise evaluation of sebum production. These methods not only meet regulatory requirements but also pave the way for innovative product formulations while adhering to ethical best practices. CTISKIN™ experts will support the design of your product's sebum regulation properties evaluation using standardized ex vivo / in vitro skin protocols.

Samples

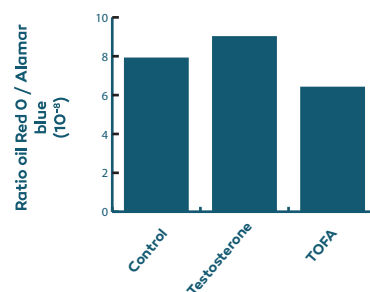
Ex Vivo	CTISkin™ Ex vivo kit : standardized & ready-to-use skin biopsies collected immediately after surgery, that can be used for up to 11 days post surgery for all ex vivo skin bioassays.
	CTIBabySkin™ Ex vivo kit : World first ethical baby skin model made from umbilical cord collected after birth to evaluate products for infants and young children.
2D Culture	CTISkin™ Single Donor Kit : From 2 to 6 human skin cell types from the same donor (keratinocytes, fibroblasts, adipocytes, sebocytes, melanocytes, blood/immune cells). Different Human cell types from skin pre-clinical grade production by biomedical scientists with over 30 years experience.
3D Bioprint	CTISkin™ SeboSkin : 3D-Bioprinted full skin models: a unique bioprinting platform to produce hundreds artificial skin models (dermis & epidermis) from the same donor skin cells. Over 10 years of extensive R&D nurtured this powerful & flexible technology to screen ingredients, finished products or for preclinical high throughput efficacy evaluation.

Readouts

- **Cellular metabolic activity assay (CMA)** to investigate live at any time points the overall health of cells and tissues with and without stress and products.
- **Haematoxylin, Eosin, and Safran (HES)** high definition bioimaging to visualize the global morphology of the tissues. This can be supplemented with additional skin biomarkers investigation (immunohistochemistry/fluorescence).
- **Cytometric Bead Array (CBA)** to quantify up to 32 inflammatory cytokines in a single test.
- **Nile Red imaging of the lipids**
- **Lipid production Quantification (LPQ)** to measure the amount and the volume of lipid droplet in tissues or cell cultures.

Results

On one hand Testosterone increases sebaceous gland activity, leading to higher sebum (skin oil) production. This can contribute to oily skin and acne. On the other hand, TOFA is a fatty acid synthesis inhibitor that blocks acetyl-CoA carboxylase (ACC), reducing lipid synthesis. Both products, when used on our 3D seboskin models show expected results on the production of lipids.



Price

Models	2D culture (Sebocytes)	Ex Vivo (1 donor)	3D Bioprint (Fibro + Kerat + Sebo)
Applications / Tests	3 controls + 5 applications tests	3 controls + 5 applications tests	3 controls + 5 applications tests
Conditions	3 replicats 1 cell type 24 conditions	3 replicats 1 donor 24 conditions	3 replicats 1 type of model 24 conditions
Readout	Alamar blue + NileRed + LDQ	Alamar blue + NileRed + LDQ	Alamar blue + NileRed + LDQ
Price (ex VAT)	From 17 600€	From 17 500€	From 23 500€

Prove the whitening or dark-spot Correction of Your Product

With CTISKIN™ by CTIBIOTECH™, validate the curative or preventive whitening / anti-hyperpigmentation potential of your ingredient/product using our whitening assay on advanced human cell and tissue models.



Cost-effective

Fast and effective. Test a high number of conditions in a limited time and at affordable costs.



Ethical

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Scientific

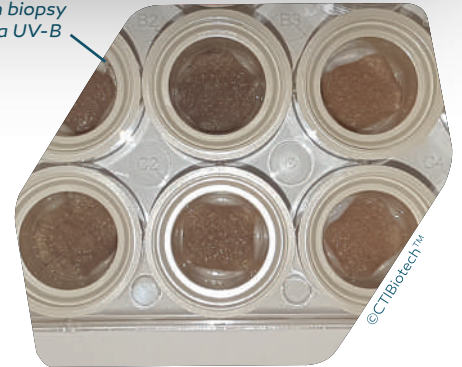
Advanced 2D, 3D, and Ex-vivo technologies for high reproducibility and environment control.

©CTIBiotech™

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Ex-vivo skin biopsy exposed to a UV-B treatment



Ensuring Cosmetic efficacy: Evaluating dark spot corrector Potential Through In Vitro Testing

CTISKIN™ offers a range of Ex vivo and In vitro skin whitening tests for a robust and reliable approach. Our technologies aim to mirror human skin's complexity to ensure precise predictions of irritation responses. These methods not only meet regulatory requirements but also pave the way for innovative product formulations while adhering to ethical best practices. CTISKIN™ experts will support the design of your product's dark spot corrector properties evaluation using standardized ex vivo / in vitro skin whitening protocols.

Samples

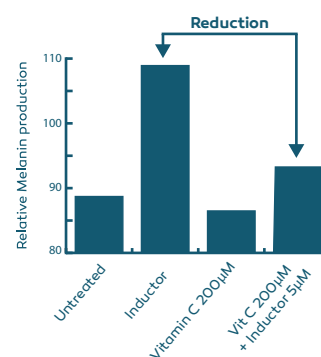
Ex Vivo	CTISKIN™ Ex vivo kit: standardized & ready-to-use skin biopsies collected immediately after surgery, that can be used for up to 11 days post surgery for all ex vivo skin bioassays.
	CTIBabySkin™ Ex vivo kit: World's first ethical baby skin model made from umbilical cord collected after birth to evaluate products for infants and young children.
	CTISKIN™ Haircare: scalp disc biopsies evaluating certain proteins involved with hair maintenance and growth.
2D Culture	CTISKIN™ Single Donor Kit: From 2 to 6 human skin cell types from the same donor (keratinocytes, fibroblasts, adipocytes, sebocytes, melanocytes, blood/immune cells). Different Human cell types from skin pre-clinical grade production by biomedical scientists with over 30 years experience.
3D Bioprint	CTISKIN™ MultiSkin: 3D-Bioprinted full skin models: a unique bioprinting platform to produce hundreds artificial skin models (dermis & epidermis) from the same donor skin cells. Over 10 years of extensive R&D nurtured this powerful & flexible technology to screen ingredients, finished products or for preclinical high throughput efficacy evaluation.

Readouts

- **Cellular metabolic activity assay (CMA)** to investigate live at any time points the overall health of cells and tissues with and without stress and products.
- **Haematoxylin, Eosin, and Safran (HES) & Warthin-Starry (WS)** high definition bioimaging to visualize the global morphology of the tissues. This can be supplemented with additional skin biomarkers investigation (immunohistochemistry/fluorescence).
- **Cytometric Bead Array (CBA)** to quantify up to 32 inflammatory cytokines in a single test.
- **Melanin Quantification (MQ)** to measure the pigmentation levels and assess melanin production in tissues or cell cultures

Results

Vitamin C, or ascorbic acid, is a powerful antioxidant crucial for skin health. This study shows that Vit C at 200 µM effectively reduces melanin production, particularly when triggered by the inductor, which induces oxidative stress. It's inhibitory effect on melanin is dose-dependent, with higher concentrations offering a greater protection. This helps prevent dark spots linked to aging and oxidative damage (Donor and phototype dependent).



Price

Models	2D cell culture (Melanocytes)	Ex-vivo biopsies (1 donor)	3D Multiskin model (fibro + kerat + melano)
Application/ tests	3 controls + 5 applications tests	3 controls + 5 applications tests	3 controls + 5 applications tests
Conditions	3 replicats 1 cell type 24 conditions	3 replicats 1 donor 24 conditions	3 replicats 1 type of model 24 conditions
Readout	CMA + WS+ CBA + MQ	CMA + WS+ CBA + MQ	CMA + WS+ CBA + MQ
Price (ex VAT)	From 11 000€	From 11 200€	From 17 000€