



PRODUCT	CLAIMS	IN VITRO EFFICACY TEST
FACE & BODY CARE	Hydration	<ul style="list-style-type: none"> ✓ Hyaluronic acid synthesis ✓ Hydration in Keratinocytes
	Anti-aging	<ul style="list-style-type: none"> ✓ Anti-aging efficacy - Cell Renewal assay ✓ Anti-wrinkles efficacy - Elastin synthesis ✓ Anti-wrinkles efficacy - Collagen synthesis ✓ Photoaging efficacy after UV radiation - Line 3T3 NRR ✓ Biochemistry antioxidant - DPPH method ✓ Antioxidant efficacy - ROS and LDH cell culture line HaCat ✓ Skin Absorption/penetration ✓ Percutaneous absorption in explants according to OECD 428
	Protection and defense	<ul style="list-style-type: none"> ✓ Antimicrobial efficacy ✓ Anti-acne efficacy – Corneobacterium acne. ✓ Healing efficacy - Cell line mast cells ✓ Antipollution efficacy - Cell culture line CCD-1064sk ✓ Anti-Blue light efficacy (LED) - MTT viability assay and ROS ✓ Photoprotector and reparative effect ✓ Anti-inflammatory efficacy - Cell line HaCat / RAW
	Microbiome	<ul style="list-style-type: none"> ✓ Microbiota - plate culture (Staphylo aerobic bacteria) ✓ Microbiome - Detection by PCR ✓ Microbiome - Detection and quantification by mass sequencing ILLUMINA ✓ Prebiotic or probiotic efficacy ✓ Atopic dermatitis treatment (S. aureus y S. epidermidis) ✓ Deodorant efficacy or odor treatment (C. xerosis)
	Anti-irritant	<ul style="list-style-type: none"> ✓ In vitro Skin irritation
	Pigmentation	<ul style="list-style-type: none"> ✓ Whitening effect ✓ Anti-redness effect - Screening UV-induced on human skin explants
	Oily skin	<ul style="list-style-type: none"> ✓ Lipidogenesis - Lipid accumulation and production ✓ 5-alpha reductase activity and testosterone metabolism
	ORAL CARE	Anti-plaque
Gingivitis and periodontitis protection		<ul style="list-style-type: none"> ✓ Oral protection against estreptococos (Streptococcus mutans).
HAIR CARE	Hair growth and alopecia	<ul style="list-style-type: none"> ✓ Capillary fortress - Keratin synthesis ✓ Hair growth effect on 5 Alpha-reductase activity
	Anti-dandruff	<ul style="list-style-type: none"> ✓ Anti-dandruff efficacy (Malassezia globosa)
SUNSCREEN & SOLAR PROTECTION	Skin sun protection	<ul style="list-style-type: none"> ✓ UVA PF and CW length (ISO 24443) *requires SPF value. ✓ UVA PF with pre-irradiation (Colipa 2011) *requires SPF value.



PRODUCT	IN VITRO SCREENING TEST
	<ul style="list-style-type: none"> ✓ in vitro SPF with pre-irradiation ✓ In vitro UVA-PF with pre-irradiation ✓ In vitro CW with pre-irradiation ✓ Water Resistance ✓ Very Water Resistance ✓ Rub Resistance ✓ Blue Light protection ✓ Photostability

IN VITRO SAFETY AND TOXICOLOGICAL EVALUATION



CATEGORY	TEST	TEST TYPOLOGY
	<ul style="list-style-type: none"> ○ Neutral Red Uptake (NRU) ISO 10993-5 ○ MTT ISO 10993-5 	<ul style="list-style-type: none"> ✓ Normal Human Dermal Fibroblasts (CCD-1064Sk) ✓ Mouse fibroblasts (BALB/3T3) ✓ Normal Human Dermal Fibroblasts (CCD-1064Sk) ✓ Mouse fibroblasts (BALB/3T3)
	<ul style="list-style-type: none"> ○ In vitro skin irritation OECD 439 ○ In vitro ocular irritation OECD 492 ○ Other tissues: 	<ul style="list-style-type: none"> ✓ Reconstructed Human Epidermis (RhE) ✓ Human Corneal Epithelium irritation test ✓ Gingival reconstructed tissue ✓ Oral reconstructed tissue ✓ Vaginal reconstructed tissue
	<ul style="list-style-type: none"> ○ AMES TEST OECD 471 	<ul style="list-style-type: none"> ✓ Bacterial Reverse Mutation Test.
	<ul style="list-style-type: none"> ○ DPRA OECD 442C ○ KeratinoSens OECD 442D ○ h-CLAT OECD 442E 	<ul style="list-style-type: none"> ✓ Direct Peptide Reactivity Assay ✓ ARE-Nrf2 Luciferase KeratinoSens Test Method ✓ Human Cell Line Activation Test
	<ul style="list-style-type: none"> ○ Skin absorption OECD 428 	<ul style="list-style-type: none"> ✓ Epidermis reconstructed tissue
	<ul style="list-style-type: none"> ○ In vitro 3T3 NRU ○ Phototoxicity Test OECD 432 	<ul style="list-style-type: none"> ✓ Mouse fibroblasts (BALB/3T3)