



# Innovation in CRB

**Guido Bertelli – VP Advanced & Applied Research**

**Personal care technology summit – June the 26th 2014**

# agenda

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- ✓ CRB
- ✓ R&D structure
- ✓ Vitalab and active ingredients
- ✓ From texture to finished products

# CRB: skincare partner

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1983



2006

# a global company

- Production facilities
- Marketing team
- Research centers

## INTERCOS USA

- Applied research
- Marketing team
- Bulk production / F&A

## INTERCOS BRAZIL

- F&A *Coming soon*

## INTERCOS FRANCE

- Marketing team

## INTERCOS UK

- Marketing team

## CRB BENELUX

- Innovation lab

## CRB SWITZERLAND

- Innovation lab
- Applied research
- Marketing team
- Bulk production / F&A

## INTERCOS SPA

- Applied research
- BlueSky
- Marketing team
- Bulk production / F&A

## VITALAB

- Research on innovative active ingredients

## INTERCOS CHINA

- Applied research
- Marketing team
- Bulk production / F&A

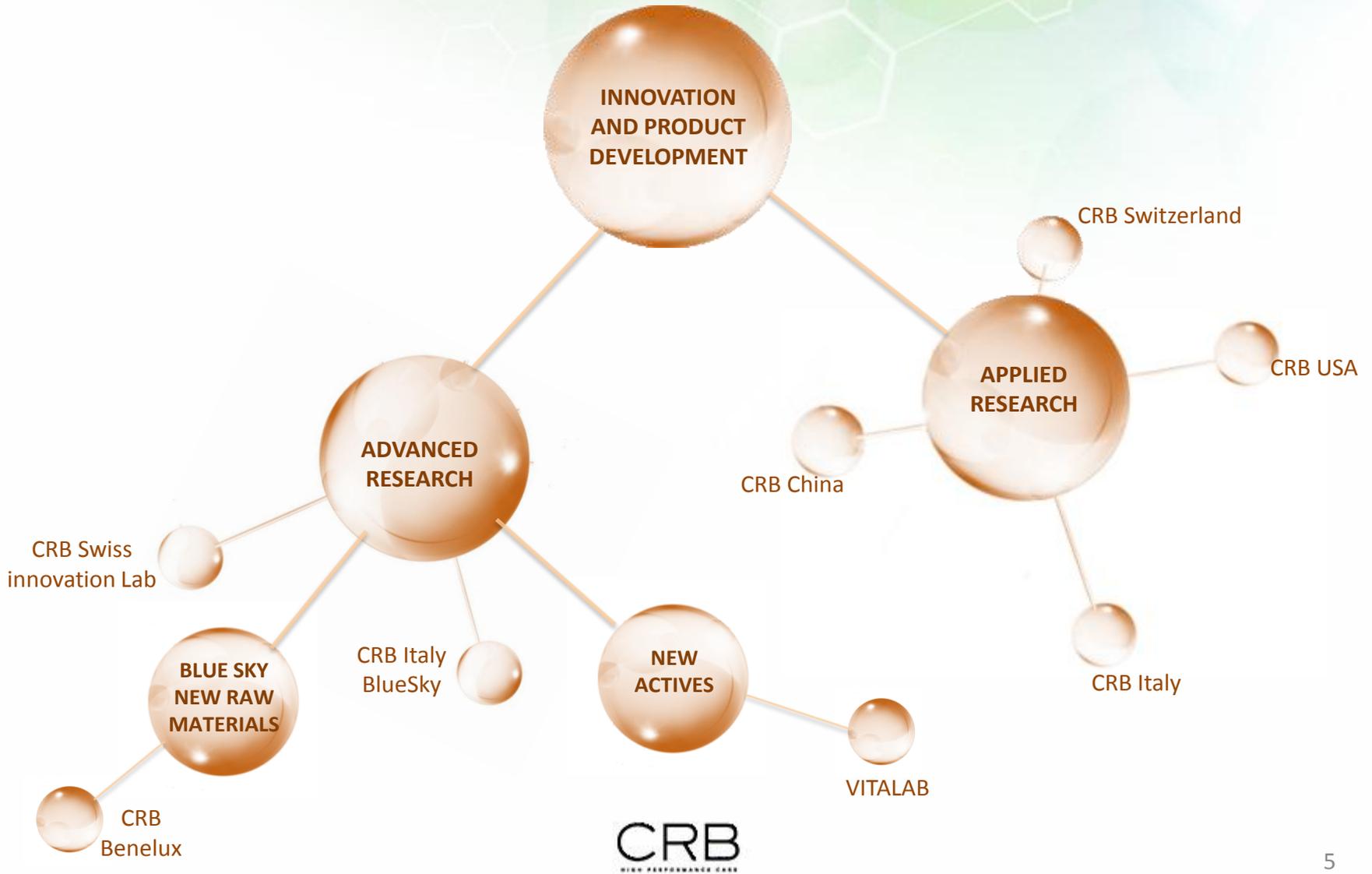
## INTERCOS MALAYSIA

- Marketing team
- F&A

## INTERCOS JAPAN

- Marketing team
- R&D Collaboration

# worldwide R&D





- ✓ PLANTS
- ✓ MICROALGAE
- ✓ INDUSTRIAL FOOD BY-PRODUCTS

# Plant based actives

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Plant Stem Cell Cultures

Hairy Root Cultures



Plants Grown in controlled conditions

## CELL BASED ASSAYS

Antioxidant Effect	Cytosolic ROS assay	Anti-glycation effect	Anti-AGE ELISA
	Membrane ROS assay		Bacterial inhibition growth assay
DNA Repair and Longevity	Comet assay	Anti-acne activity	IL1a RT-PCR
	GADD45a RT-PCR		5aReductase RT-PCR
	SIRT1 & 6 RT-PCR		COX2 RT-PCR
	Aquaporin-3 RT-PCR	Anti-inflammation	iNOS RT-PCR
Hydration capacity	Filaggrin RT-PCR		NO production assay
	Involucrin RT-PCR		IL1b- 6- 8 and TNFa RT-PCR
	Sphingomyelin Phosphodiesterase 1 RT-PCR	Anti-itching	Histidine decarboxylase RT-PCR
	bGlucocerebrosidase RT-PCR/ activity assay		Histamine assay
Collagen synthesis, assembly and degradation	Hyaluronan Synthase 2 RT-PCR	Defense system	beta defensine 2 RT-PCR
	Hyaluronan Synthase 3 RT-PCR		eNOS RT-PCR
	Procollagen I & III ELISA assay	Vascular ageing	Et-1 RT-PCR
	Collagen I & III RT-PCR		VEGF RT-PCR
Elastin synthesis, assembly and degradation	Dermatopontin and Sparc RT-PCR		SpinK RT-PCR
	MMP 1-3-9 RT-PCR	Exfoliation	Klk6 RT-PCR
	Elastase activity assay		Klk5 RT-PCR
	Elastin and Fibrillin1 RT-PCR		cAMP assay
Wound healing	Lysyl oxidase RT-PCR		Lipase RT-PCR/Lipase activity assay
	Wound healing assay	Replumping - Anti fat	Adipocyte formation assay
	Fibronectin induction ELISA-IMMUNOFLUO		Adipocyte inhibition assay
Heavy metal protection	Actin polymerisation assay		PPAR g, SIRT-1 RT-PCR
	Heavy metal toxicity (MTT)		Melanin content assay
	Hsp70 expression RT-PCR		Tyrosinase activity assay
Detoxification	Proteasome activity assay	Whitening - Tanning	MITF & Tyr RT-PCR
	UPR expression RT-PCR		Melanin transfer:Rab 27a, Et1, Par2 RT-PCR
Mitochondrial protection	Common deletion assay		CD105 RT-PCR
	SIRT3 RT-PCR	Cell differentiation and regeneration: hMSC differentiation in fibroblasts	Col I RT-PCR
Cell metabolism	ATP assay		FSP1 RT-PCR
	O <sub>2</sub> consumption		

# NC01: BioNymph Peptide

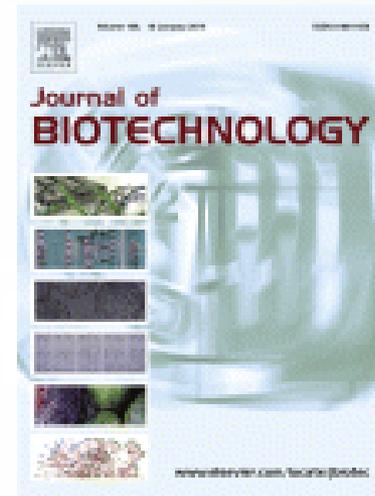


360° anti-ageing

## **Scientific Publication:**

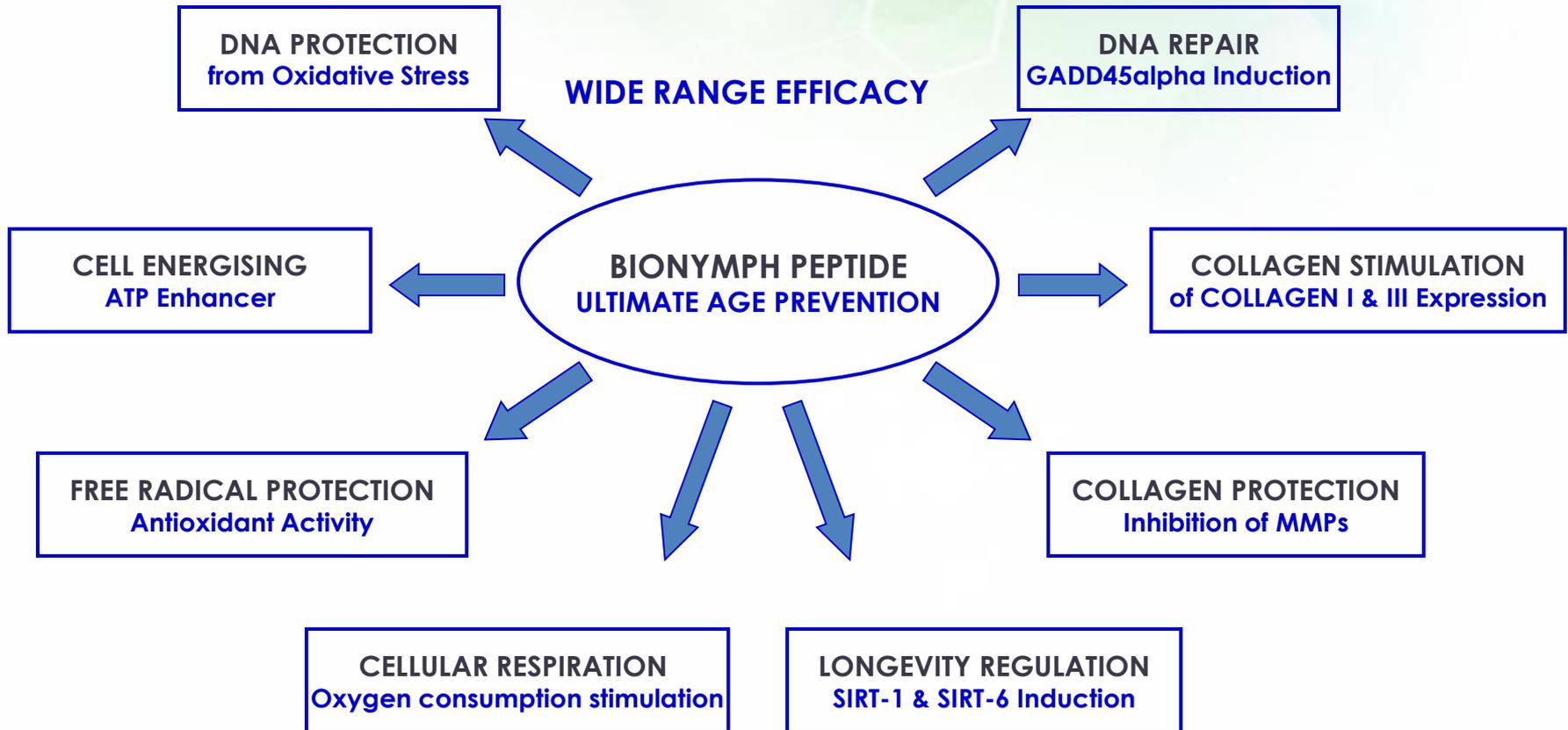
APONE F et al.(2009).  
A mixture of peptides and sugars derived from plant cell walls increases plant defense responses to stress and attenuates ageing-associated molecular changes in cultured skin cells.  
Journal of Biotechnology, 145(4): 367-376.

A PURIFIED CELL WALL FRACTION FROM NICOTIANA SYLVESTRIS STEM CELL CULTURES, COMPOSED OF PEPTIDES AND SUGARS



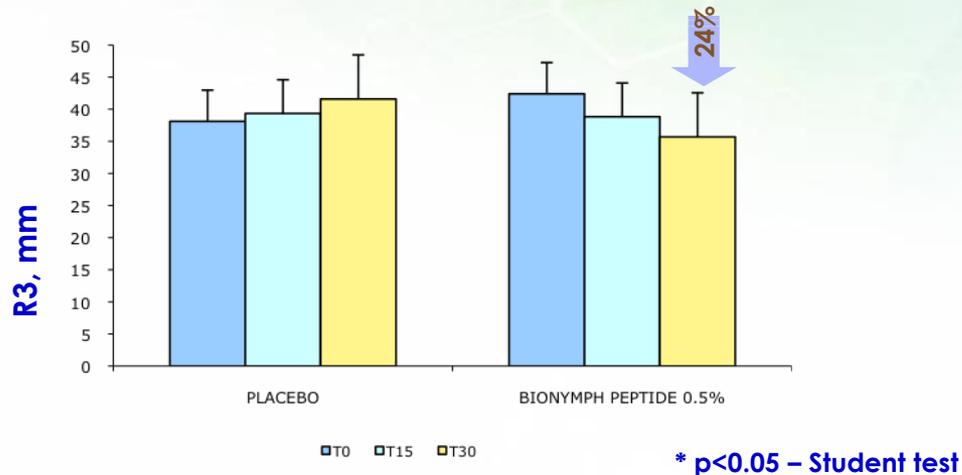
**Patents:** WO2007104489 and MI2008A 000449

# NC01: BioNymph Peptide

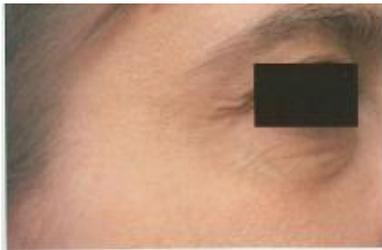


# NC01: BioNymph Peptide

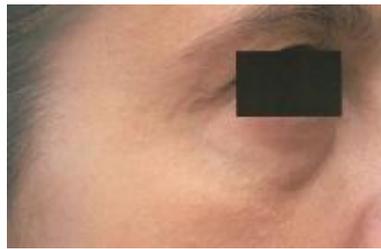
## AVERAGE ROUGHNESS



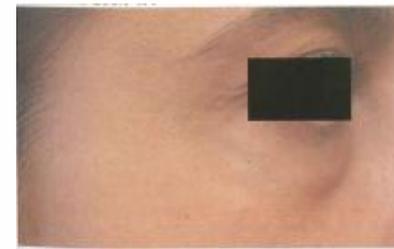
T0



T15

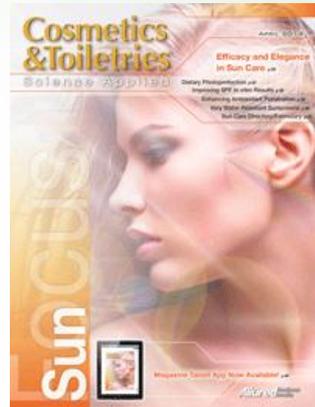


T30

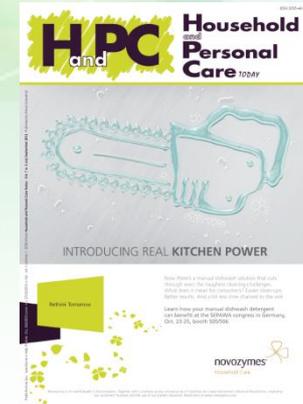


The cream containing BioNymph Peptide at 0.5% **diminishes wrinkles by 11.6% after 15 days** and by **24.9% after 30 days** of treatment compared to the placebo. At the end of the study, 90% of the volunteers noticed an improvement of skin elasticity and smoothness.

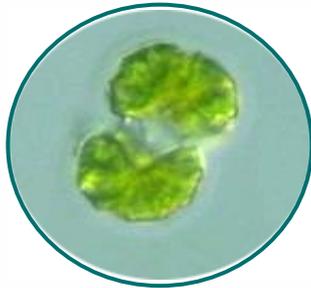
# Active ingredients



**DOLICHOS STEM CELL CULTURES**  
**UV-PROTECTING**  
**Patent:** MI2012A 001262;



**Aglianico red grape marc**  
**REBALANCING SKIN PROTEIN LEVELS**  
**HPC Today, Vol.7 n. 3, July/September 2012.**



**MicroAlga *Botryococcus braunii***  
**REPLUMPING AND HYDRATING**  
**Arch Dermatol Res. 2012;304(9):755-64**



## CUSTOMIZATION:

- ✓ SINGLE EXTRACT
- ✓ BLEND OF EXTRACT
- ✓ EFFICACY TESTING

# From texture ...

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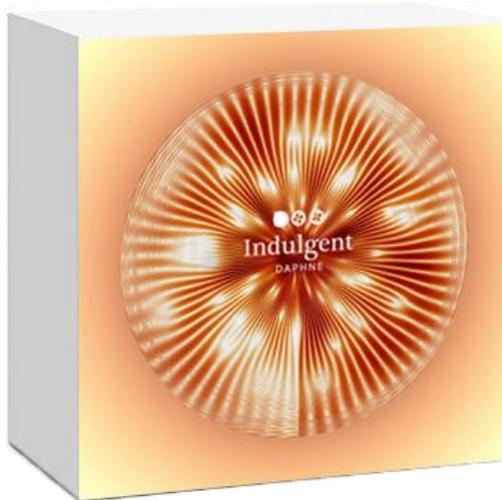
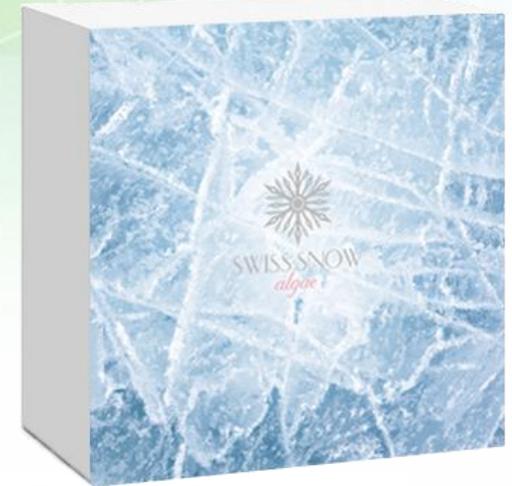
**“all-in-one”** texture:

- Nourishing
- Moisturizing
- Make-up Remover



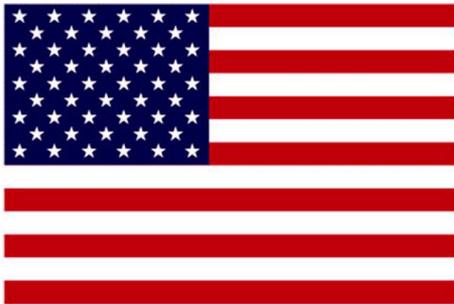
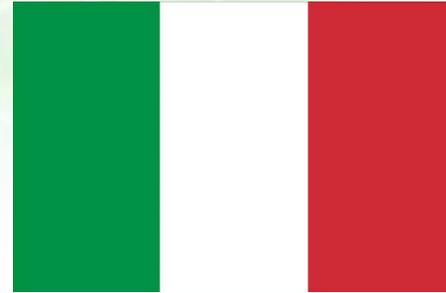
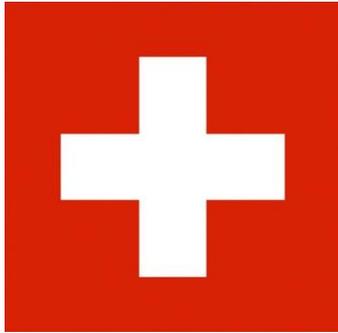
**CRB**  
HIGH PERFORMANCE CARE

... to complete lines



# Made in ...

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**Thank you !**