



Seminário

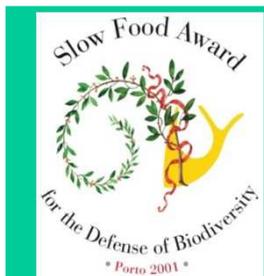
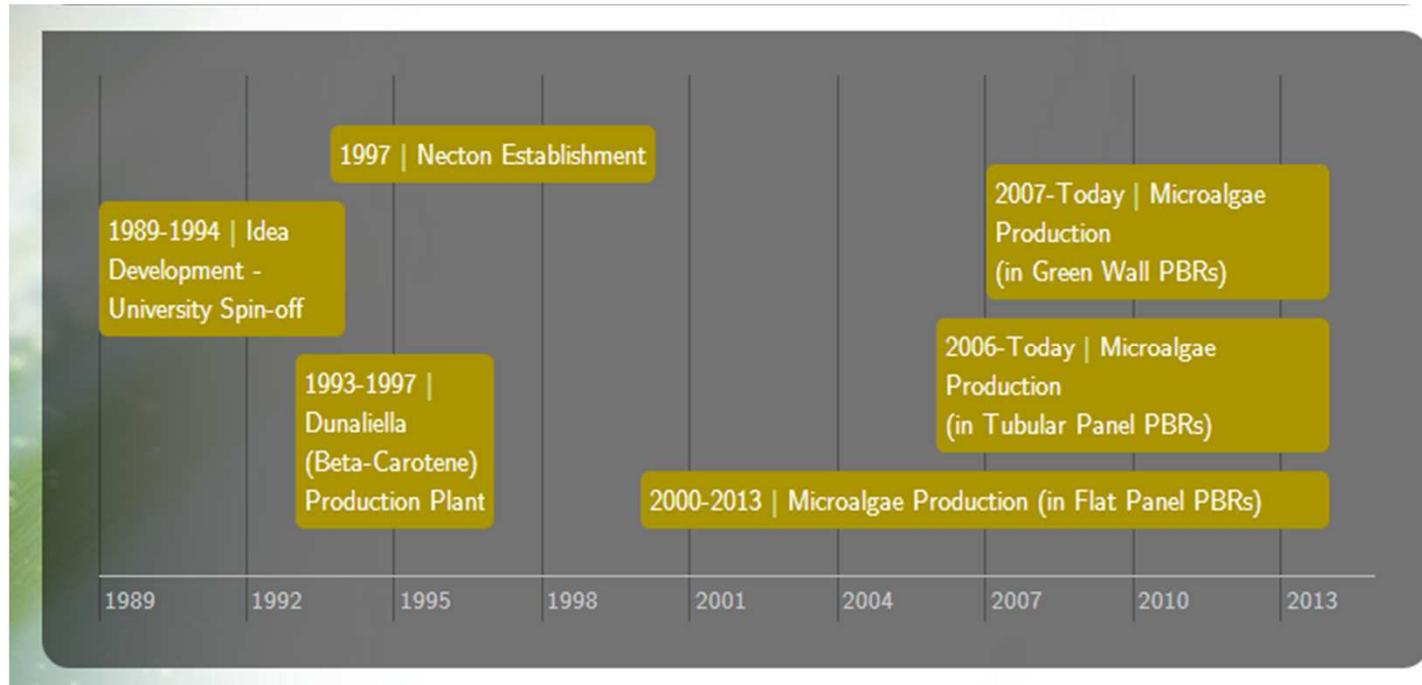
“Um mar de oportunidades – Inovação e Empreendedorismo”

Microalgas e indústria cosmética

necton

27.11.2013

GÉNESE



2001



2003



2006



2007



2011

Unidade de Negócio - SAL





*Formulações Cosméticas
com Microalgas*

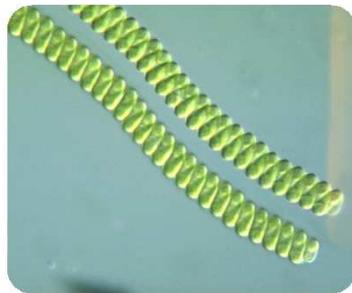
Whole-cell

Crems, pasta dos dentes, máscaras para SPA e talassoterapia, sais de banho...

Extratos celulares

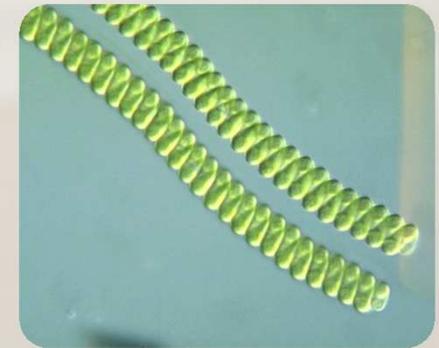
Formulações de cremes faciais, corporais, serums, champôs...

Whole-cell



Spirulina Facial Mask Philippines - www.sulit.com.ph

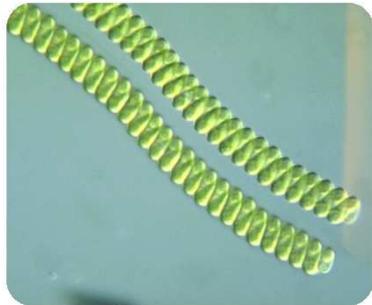
Whole-cell



Spirulina - Ella Baché's SpiruLines www.beautyholicsanonymous.com

© beautyholicsanonymous

Whole-cell



DEAD SEA COSMETICS & Intensive Spa: **SPIRULINA**
<http://deadsea-cosmetic.blogspot.com>

Whole-cell



Spirulina Soap Making -
www.soap-making-resource.com



Spirulina soap Tutorial - Swettis
Beauty Blog –
<http://skinchakra.eu>

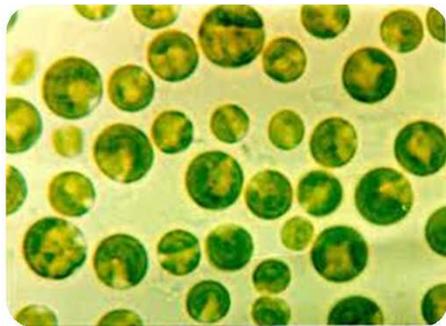
Extratos celulares

Estudos realizados em colaboração com o CCMAR (UALG), KU Leuven (BE) e Chalmers University of Technology (SE)

Microalgae	Antioxidant Antichelating	Antiaging Antiwrinkle	Sun care	Soothing Anti-irritant	Bactericide Antiviral	Pigment	Fatty Acids
Nannochloropsis	+++	nt	+	nt	nt	B-carotene Lutein Neoxanthin	EPA ALA
Tetraselmis	+++	nt	+++	nt	nt	B-carotene Lutein Neoxanthin Violaxanthin Diadinoxanthin	EPA PA Stearic Acid
Phaeodactylum	+	+++	+	nt	nt	Zeaxanthin Fucoxanthin	DPA DHA EPA
Porphyridium	++	nt	++	+++	+++	Zeaxanthin Phycoerythrin	ALA EPA
Isochrysis	+++	nt	++	nt	+++	B-carotene Zeaxanthin Fucoxanthin Cantaxanthin	DHA ALA Mistic Acid Oleic Acid

nt – not tested. Results available in references: i) Custódio, L., Justo, T., Silvestre, L., Barradas, A., Duarte, C. V., Pereira, H., & Varela, J. (2012). Microalgae of different phyla display antioxidant, metal chelating and acetylcholinesterase inhibitory activities. *Food Chemistry*, 131(1), 134-140; ii) Goiris, K., Muylaert, K., Fraeye, I., Foubert, I., De Brabanter, J., & De Cooman, L. (2012). Antioxidant potential of microalgae in relation to their phenolic and carotenoid content. *Journal of Applied Phycology*, 24(6), 1477-1486; iii) Goiris, K., De Cooman, L., & Muylaert, K. (2013, April). Microalgal extracts as natural alternatives for synthetic antioxidants. In *Symposium Biorefinery for Food, Fuel and Materials 2013*. iv) Goiris, K., Muylaert, K., Foubert, I., & De Cooman, L. (2011). Microalgae as a potential novel source of antioxidants. status: published. iv) Raposo, M. F. D. J., de Moraes, R. M. S. C., & Bernardo de Moraes, A. M. M. (2013). Bioactivity and applications of sulphated polysaccharides from marine microalgae. *Marine drugs*, 11(1), 233-252.

Extratos celulares



Óleo de Chlorella
www.sephora.pt

Extratos celulares



PEPHA®-CTIVE
biotechnologically
produced extract of the microalga
Dunaliella salina



Properties:

- **PEPHA®-CTIVE** acts as an efficient skin energy generator and replenishes the energy stores of stressed skin which has lost its initial energy level.
- **PEPHA®-CTIVE** protects the mitochondria of the skin cells and keeps its functionality from being slowed from stress attacks. The skin becomes more radiant and its natural healthy look is improved.

Function:

- **PEPHA®-CTIVE** protects and stimulates the mitochondria, the energy centres of the skin cells
- **PEPHA®-CTIVE** enhances the ATP-levels to provide the skin with new energy
- **PEPHA®-CTIVE** increases cell turnover
- **PEPHA®-CTIVE** improves the overall skin complexion

Cosmetic applications:

- skin energizing applications
- de-stressing treatments
- skin care to give for radiant and luminous looking skin

Formulation:

PEPHA®-CTIVE is a clear yellowish liquid. It should be incorporated at the end of the formulation process (<50°C).

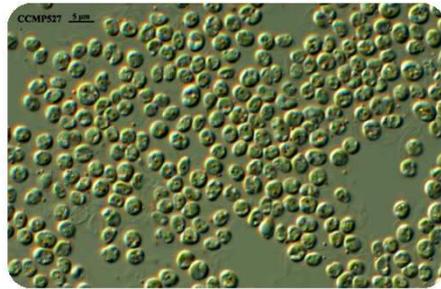
Suggested concentration:

1-3% **PEPHA®-CTIVE**

INCI Name:

Algae Extract

Extratos celulares



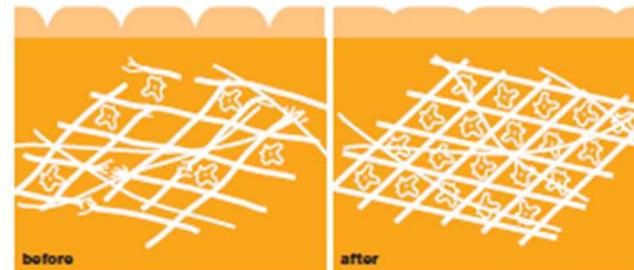
PEPHA®-TIGHT
highly purified biotechnologically
produced extract from the microalga
Nannochloropsis oculata



Properties:

PEPHA®-TIGHT tightens the skin immediately and has in parallel a long term effect strengthening the skin's connective tissue.

Loose skin often is a result of oxidative stress and damaged collagen fibres. As shown in *in vitro* assays **PEPHA®-TIGHT** protects skin cells from oxidative stress and increases simultaneously the formation of collagen-I.



Function:

- **PEPHA®-TIGHT** has a noticeable instant tightening effect and smoothes fine wrinkles
- **PEPHA®-TIGHT** acts preventively as a protection shield against oxidative stress
- **PEPHA®-TIGHT** strengthens the connective tissue by increasing the formation of collagen-I

Cosmetic application:

- all kinds of tightening gels, lotions, serums
- masks
- lifting products
- décolleté treatments

Formulation:

PEPHA®-TIGHT is a yellowish to amber, viscous liquid. It should be incorporated at the end of the formulation process (<50°C).

Suggested concentration:

1-5% **PEPHA®-TIGHT**

INCI name:

Algae Extract, Pullulan

Extratos celulares



Porphyraline


SOLIANCE
Naturellement Innovant

Descriptif

Polymère sulfaté de haut PM obtenu à partir d'une microalgue rouge, *Porphyridium cruentum*.

Activité

- Restauration de la barrière par stimulation de la synthèse des lipides épidermiques
- Renforcement de la jonction dermo-épidermique
- Prévention des Pertes Insensibles en Eau (PIE) par effet filmogène

Application

Peau sèche, peau sensible

Après-rasage, après-solaire

Soin du corps

Maquillage

Gamme homme

Nom INCI	Water (and) Porphyridium cruentum extract
Aspect	Liquide clair
Conservateur	Phenoxyethanol Autre référence sans conservateur: Porphyraline SP
Formulation	Température <80°C Phase aqueuse Début ou Fin de formulation
Règlementation	Porphyraline SP, sans conservateur, est approuvé Ecocert et Chine (Liste CTFA 2004)

Um mar de oportunidades INOVAÇÃO e EMPREENDORISMO

- > **Fornecedores de WHOLE-CELL ocupam uma posição baixa na cadeia de valor**
- > **Fornecedores dos EXTRATOS CELULARES ocupam uma posição média na cadeia de valor**

Pigmentos/Carotenóides: B-caroteno, astaxantina, luteína, zeaxantina, canthaxantina, chlorofila, ficocianina, ficoeritrina, fucoxantina...

Ácidos gordos poli-insaturados (PUFAs): DHA(C22:6), EPA(C20:5), ARA(C20:4)...

Vitaminas: A, B1, B6, B12, C, E, biotina, riboflavina, ácido fólico...

Antioxidantes: Catalases, polifenóis, superóxido dismutase, tocoferóis...

- > **Valor do negócio elevado => 1 kg princípio activo 500 – 15.000 Euros**
- > **Valor do mercado elevadíssimo, só mercado europeu vale 67 biliões de Euros (2010)**
- > **Desenvolvimento de novas formulações cosméticas/ingredientes depende de IDT**
- > **É um mercado ávido por inovações**



OBRIGADA!

Victoria del Pino
vdelpino@necton.pt

necton

<http://phytobloom.com>
www.facebook.com/PhytoBloom