



Calybiota[®] Bio



A microbiota balance active ingredient

Eco-designed active ingredient
Red kapok tree flower polysaccharides (*Bombax costatum*)
plant sourced in **Burkina Faso**

○ Intimate flora protection

- Prebiotic effect
- Reduces discomfort sensations
- Soothes & hydrates
- Improves women's sexual life

○ Atopic dermatitis

○ Deodorant

○ Anti-acne



A PIONEER
AND EXEMPLARY
CSR STRATEGY
ADOPTED IN 2004

EXPANSCIENCE[®]
LABORATOIRES

Identity

Botanical information

Botanical name: *Bombax costatum*

Local names: red kapok tree

Family: Malvaceae

Characteristics: little tree usually reaching a height of 5 - 15 m. It flowers in the dry season before the leaves appear. It is an oxalogen tree (carbon sink).

Environment: savanna zones of West Africa.



Sustainably sourced in Africa

Expanscience sources the calyx of red kapok tree flowers in Bukina Faso, Africa. They are harvested in the classified forest and Mare aux Hippopotames biosphere reserve in the commune of Satiri, protected by the UNESCO "Man and the Biosphere" program. The calyxes are the part located at the base of the red kapok tree flowers; they are traditionally used in West African cuisine as a base of sauces.

The red kapok tree is also an oxalogene tree, which means that it has the "oxalate-carbonate pathway" in its metabolism allowing the calcium carbonate formation in the soil, one of the most sustainable carbon sink forms.

Concept

Skin microbiota

The skin is colonized by billions of bacteria that participate in the immunity regulation and the skin barrier function. Preserving this microbiota homeostasis is essential to maintain a healthy skin. Calybiota® Bio protects and maintains the skin microbiota balance while respecting the most sensitive skins and mucosa.

Helps all women feel good & comfortable in their intimacy!

Today, more than 30%* of postmenopausal women and 16%** of women are suffering from dyspareunia (pain during sexual intercourse), an unrecognized and often hidden problem mostly due to a microbiota imbalance. Women speak more and more about their intimacy and want to limit their discomfort but very few products meet consumer specific need.

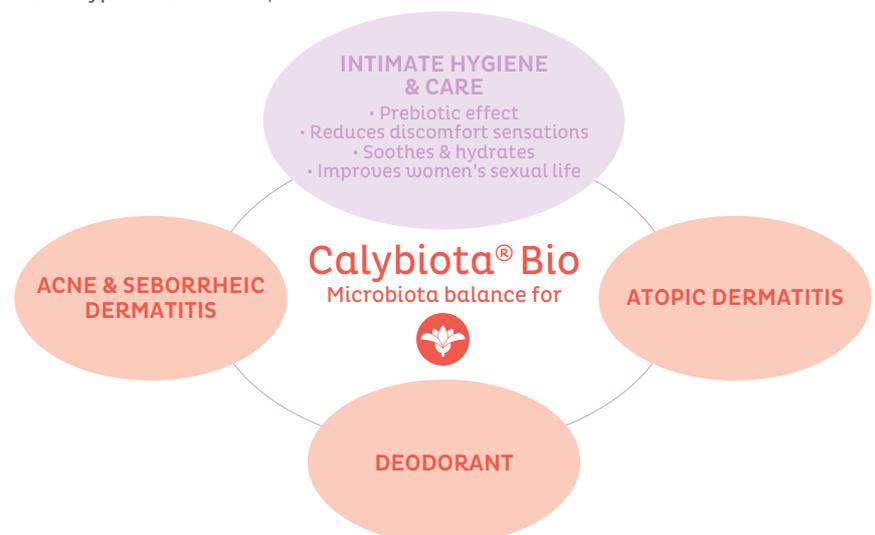
Calybiota® Bio is a unique opportunity ingredient to develop formulations able to act on women well-being by reassuring their femininity.

*Ayane Cristine Alves Sarmento and al. Front. Reprod. Health (2021)

**Shalender Bhasin and al. Williams Textbook of Endocrinology (2011)

Calybiota® Bio, a **red kapok tree flower extract rich in polysaccharides**, protects the vagina flora. The intimate women's area is soothed and moisturized for a sexual life improved!

Thanks to its global action on the microbiota, Calybiota® Bio is also recommended for acne-prone, atopic/eczematous or hypersensitive skin, as well as for deodorant formulations.



Calybiota® Bio, a microbiota balance active ingredient

Intimate flora protection

In vitro tests

Strains incubation in depleted medium in the presence of Calybiota® Bio at different concentrations (0,25% to 2%). After 4h and 24h of incubation, bacterial growth was evaluated by spectrophotometric measurement.

Prebiotic effect on the vagina flora

Lactobacilli belong to the gastrointestinal and urogenital commensal flora and are considered protective microorganisms, capable of inhibiting the growth of pathogenic microorganisms by producing antimicrobial molecules and ensuring a low pH.

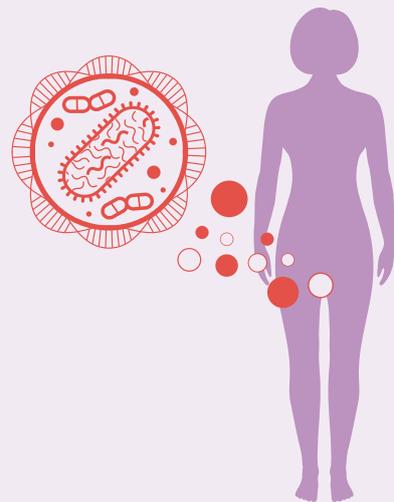
L. crispatus, *L. gasseri*, *L. acidophilus* and *L. jensenii* are lactobacillus present in the vaginal ecosystem and they are considered as protectors and biomarkers of the healthy vaginal tract.

Growth & viability of

L. gasseri → prebiotic effect after 4h of incubation
L. acidophilus] → prebiotic effect after 24h of incubation
L. jensenii]

Bacteriostatic or even anti-microbial effect on pathogenic strains

↘ Growth & viability of *G. vaginalis* & *E. coli*



Clinical study

Clinical study of 1.25% Calybiota® Bio on 4 women groups n=48 (post-vaginosis, post-mycosis, irritation & post-menopause). Assesment at D0 and after application once a day of a cleansing gel and twice a day of a cream for 28 days.

Prebiotic effect on lactobacillus clinically confirmed



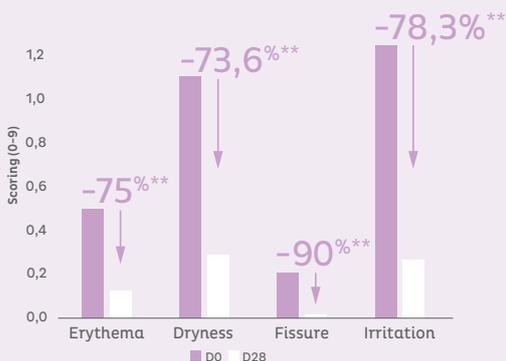
Anti-inflammatory effect



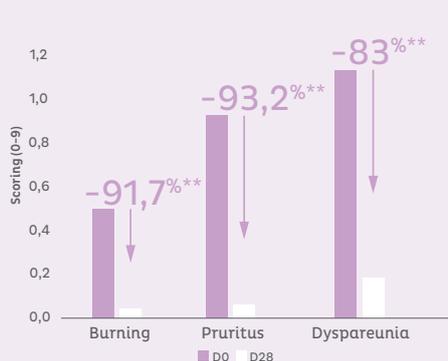
Hydrates & reduces the sensations of discomfort for a sexual life improved!

Dyspareunia is the feeling of pain during sexual intercourse. There are many causes of dyspareunia such as infection, vaginal dryness or even psychological causes.

Reduction of discomfort sensations (clinical scoring by a gynecologist)



Reduction of discomfort sensations (auto scoring)



89% of women find that the product reduces the irritating sensations

81% of women have seen an improvement of their sexual life

87% of women find that the product reduces dryness

Atopic dermatitis *In vitro* tests

S. aureus (staphylococcus aureus) is involved in many skin infections, and its role is particularly described in the pathogenesis of Atopic Dermatitis (AD). Calybiota® Bio inhibits the formation of *S. aureus* biofilm and its adhesion to the skin surface.

S. aureus adhesion to the surface of RHE (incubation 15min + 4h)

S. aureus adhesion
-81%*

Calybiota® Bio
1,5% vs control

S. aureus biofilm formation analyzed in microplate by crystal violet technique (incubation 24h)

S. aureus biofilm
-41%*

Calybiota® Bio
2% vs control

Acne & Seborrheic dermatitis *In vitro* tests

C. acnes & *M. furfur* are strains involved in skin acne and seborrheic dermatitis
 ↘ **Growth of *C. acnes* & *M. furfur* after 48h of incubation with Calybiota® Bio at different concentrations (0,1% to 3,2%).**

Deodorant *In vitro* & *Ex vivo* tests

Corynebacteria (e.g. *C. xerosis*, *C. striatum*) and staphylococci (*S. epidermidis*) are the main bacterial species responsible for axillary odor

Sniff test <i>In vitro</i> vs Control (24h incubation)	Odor	
	<i>S. epidermidis</i>	<i>C. striatum</i>
Control (reconstituted sweat)	intense	moderate
Chlorhexidin	absent	intense
Calybiota® Bio 0,3%	moderate-absent	moderate-absent
Calybiota® Bio 1%	moderate-absent	absent

↘ **Odors produced by *S. epidermidis* and *C. striatum* without impacting the viability of bacteria**

C. xerosis adhesion to the surface of skin explants (incubation 2h + 24h)

C. xerosis adhesion
-92%***

Calybiota® Bio
1,5% vs control

In vitro & *Ex vivo* : * p<0.05, ***p<0.01

General informations

- INCI name: Glycerin, Water, Bombax Costatum Flower Extract
- Use percentage: 1-3%
- Water soluble
- No preservative system
- Packaging: 1 kg and 10 kg

Raw material certified by Ecocert Greenlife, conform to the COSMOS Standard



Inspiration formulation with Calybiota® Bio

Discover **Family'Tab**, a nourishing & nomad universal solid bar for the whole family as it is dedicated to the most sensitive skin!

Flash to discover the formula!



Ready to know more about Calybiota® Bio? Contact our team!

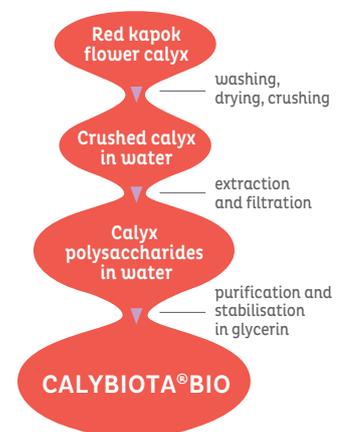
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Eco-friendly patented process



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