

# AÇAÍ

# FRULIX

LIQUID FRUITS • EXCLUSIVE TECHNOLOGY



## FRULIX AÇAÍ

FRULIX AÇAÍ is obtained through an exclusive biotechnological process that mimics the natural ripening of the fruit. Using the fruits' native enzymes ASSESSA transforms its pulp into a crystalline liquid with all the active ingredients of the fruit, in concentrations equivalent to those found in nature.

**PRODUCED WITHOUT THE ADICTION OF SOLVENTS**

# ASSESSA

INNOVATION FOR A GREENER WORLD



## THE PLANT

### AÇAÍ PULP POSSESSES ANTIOXIDANT AND ANTI-INFLAMMATORY ACTIVITIES

The Açai Tree (*Euterpe oleracea Mart.*) belongs to the Arecaceae family, and is known by various popular names, such as açai, açai da várzea (açai of the meadow) and "açai da terra firme", among others. The fruits possess exceptional nutritive properties, and are used in the preparation of drinks or consumed directly. The medicinal properties of the fruit are also valued, as it acts as an antidiarrhoeic. Açai pulp possesses incomparable nutritional properties and colorific value, and is rich in proteins (approximately 3.8% of dry pulp), fibre, lipids, vitamins A, C, B1, B2 and vitamin E, and important minerals such as calcium, phosphorous, iron and silicon, as well as having high levels of polyphenols of the anthocyanin family, recommended for the control of cholesterol. The polyphenols found in the açai pulp have excellent antioxidant activity. Studies have also shown good antiinflammatory activity. Analysis of the fraction of tocopherols by HPLC showed high amounts of alpha-tocopherol compared to tocotrienols, demonstrating the presence of vitamin E in the pulp.



## COMPOSITION

The levels of proteins, minerals and vitamins can be observed in the following tables:

### PROTEINS (mg/l)

AVERAGE	MINIMUM
1,178.60	800.00

### VITAMINS\*

VITAMIN	CONC. (mg/L)
Tiamina (B1)	6.00

\*Analysis performed after 4 months of shelf-life

### MINERAL SALTS

ELEMENT	CONC. (mg/L)
Na	109.80
K	222.50
Ca	101.20
Mg	94.30
Mn	5.20
Cu	0.40
Zn	0.90
Fe	4.90
Si	71.50

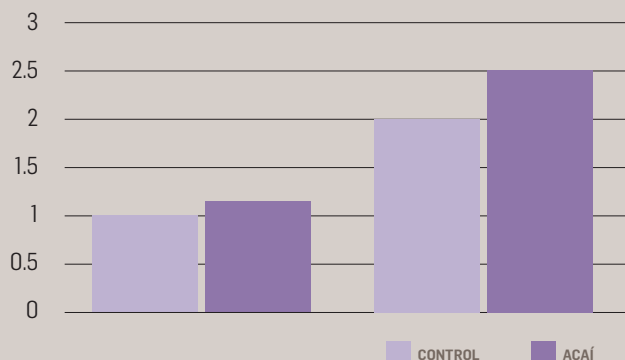
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## ACTION ON SKIN CELLS

The action of FRULIX AÇAÍ on human fibroblasts and keratinocytes was tested and the results may be observed in the graph below.

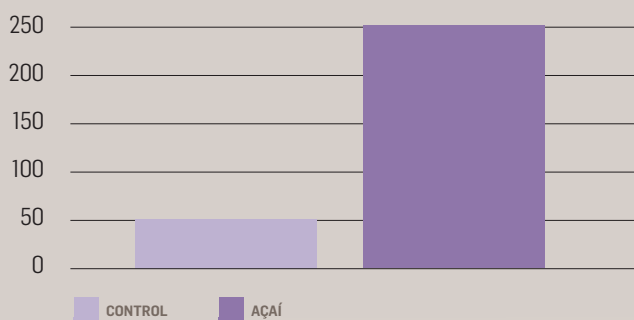


As can be seen, FRULIX AÇAÍ was shown to possess a stimulating action on fibroblasts and keratinocytes, being capable of increasing by 20% the number of viable cells in relation to the control substance. The active activity on fibroblast proliferation, however, was not significant.

## STIMULATION OF PRODUCTION OF TYPE I COLLAGEN

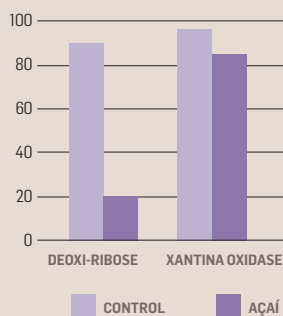
As well as increasing the number of cells, as shown in the proliferation tests, it is important to verify the action of FRULIX AÇAÍ on the activity of fibroblasts. Thus, another parameter to be evaluated in the verification of the biological activity of açai in its capacity to stimulate the production of collagen.

The test conducted with populations of human monoclonal fibroblasts, and using the marking of collagen molecules with IgG1, revealed that, in spite of not contributing significantly to the proliferation of the fibroblasts, FRULIX AÇAÍ was capable of efficiently stimulating the functioning of cells, increasing the production of collagen by more than 490%.



## ANTIOXIDANT ACTIVITY

The antioxidant activity of FRULIX AÇAÍ was tested according to two different protocols: the Fenton protocol, based on the inhibition of Deoxyribose oxidation and the protocol based on the inhibition of the enzyme Xanthine Oxidase.



**INCI NAME**  
Euterpe Oleracea  
Fruit Extract, Sodium  
Benzoate and  
Potassium Sorbate

## FUNCTIONS

Açaí is a fruit rich in vitamins, proteins, essential sugars, bioflavonoids and mineral salts. FRULIX AÇAÍ has nutrient and protective properties and is indicated for use in hair care products in formulas for nutrition, cleansing and protection of weakened hair.

The nutritional and toning properties of açai also make FRULIX AÇAÍ recommended in formulas for skin treatment with nutritive and regenerative claims. It is interesting to highlight the presence of high concentrations of soluble silicon in the active, considering the importance this mineral has in the structuring of collagen as a function element of the dermis fibers, or even as a structuring element in the hair.

## USAGE LEVELS

FRULIX AÇAÍ is compatible with the majority of ingredients used in food and cosmetic formulations as a nutritional supplement for health foods and drinks, and in cosmetic products for the treatment of skin and hair. FRULIX AÇAÍ may be incorporated cold, directly into the aqueous phase of the formulas. FRULIX AÇAÍ is stable at temperatures up to 90 °C, in pH conditions from 4.00 to 11.00.

PRODUCT	(%)
Moisturizing cream	0.3 to 0.8
Nutritive cream	0.5 to 1.0
Night cream	0.5 to 1.0
Nutritive lotion	0.2 to 0.6
Shampoo	0.2 to 0.4
Conditioner	0.2 to 0.4
Face mask	0.8 to 1.5
Styling cream	0.3 to 1.0



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