

# DERMASTIR<sup>®</sup> KOJIC ACID **A**



**DERMASTIR  
KOJIC ACID**



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## DERMASTIR KOJIC ACID

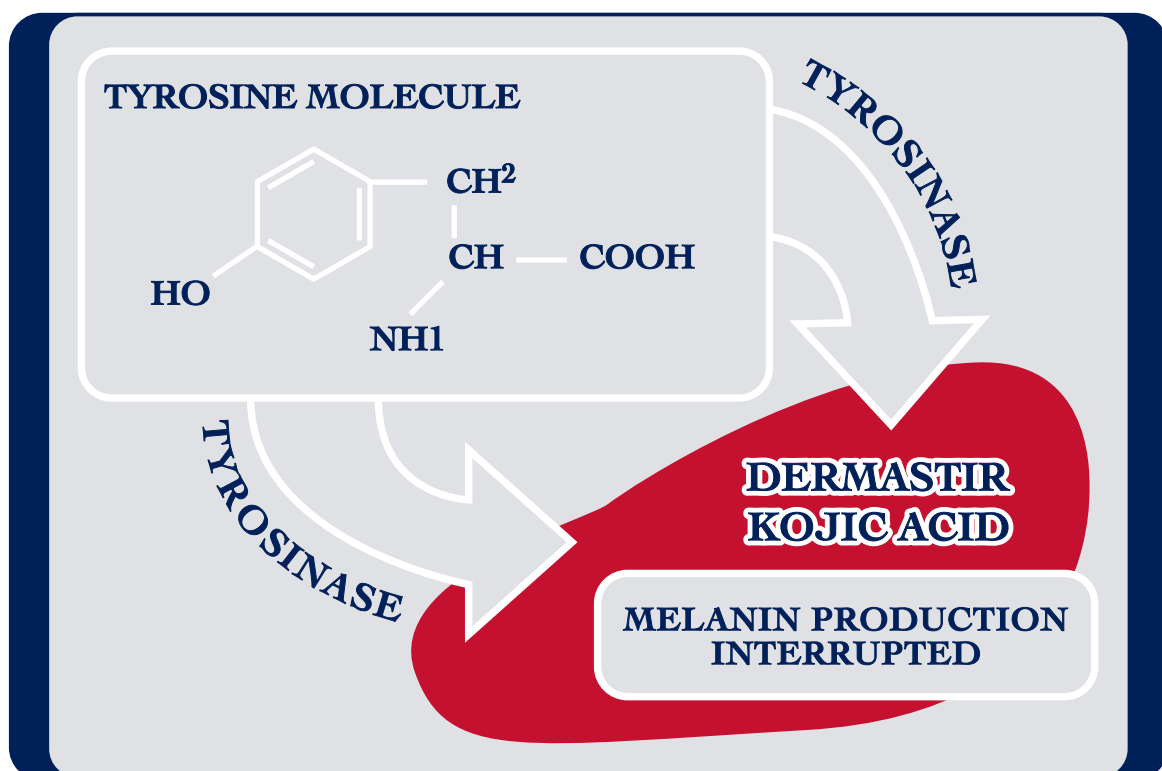
Kojic acid (5-hydroxy-2-(hydroxymethyl)-4-pyrone) is used in skin care formulations to lighten the skin, like another agent, hydroquinone. However, while hydroquinone works by inhibiting the activity of tyrosinase by acting as a melanocyte cytotoxic inhibitor and by increasing the cytotoxicity of melanocytes (melanin-producing cells), kojic acid lightens the skin solely by suppressing tyrosinase activity (by inhibiting catecholase activity of tyrosinase) in a non-traditional fashion. Kojic acid is referred worldwide for its skin-lightening abilities, and is commonly used in topical formulations to treat dark spots.

Kojic acid is a by-product in the fermentation process of malting rice for use in the manufacture of sake, the Japanese rice wine. There is definitely convincing research, both in vitro and in vivo, and also in animal studies, showing that kojic acid is effective for inhibiting melanin production (*Sources: Biological and Pharmaceutical Bulletin, August 2002, pages 1045–1048; Analytical Biochemistry,*

*June 2002, pages 260–268; Cellular Signaling, September 2002, pages 779–785; American Journal of Clinical Dermatology, September-October 2000, pages 261–268; and Archives of Pharmacal Research, August 2001, pages 307–311*). Both glycolic acid with kojic acid, as well as glycolic acid with hydroquinone are highly effective in reducing the pigment in melasma patients (*Source: Dermatological Surgery, May 1996, pages 443–447*).

### Why aren't there more products available containing kojic acid?

Kojic acid is an extremely unstable ingredient in cosmetic formulations. Upon exposure to air or sunlight it turns to a strange shade of brown and loses its efficacy. Many cosmetic companies use kojic dipalmitate as an alternative because it is far more stable in formulations. However, there is no research showing that kojic dipalmitate is as effective as kojic acid, though it is a good antioxidant. Research shows that Kojic Acid is best presented and stored in glass ampoules.



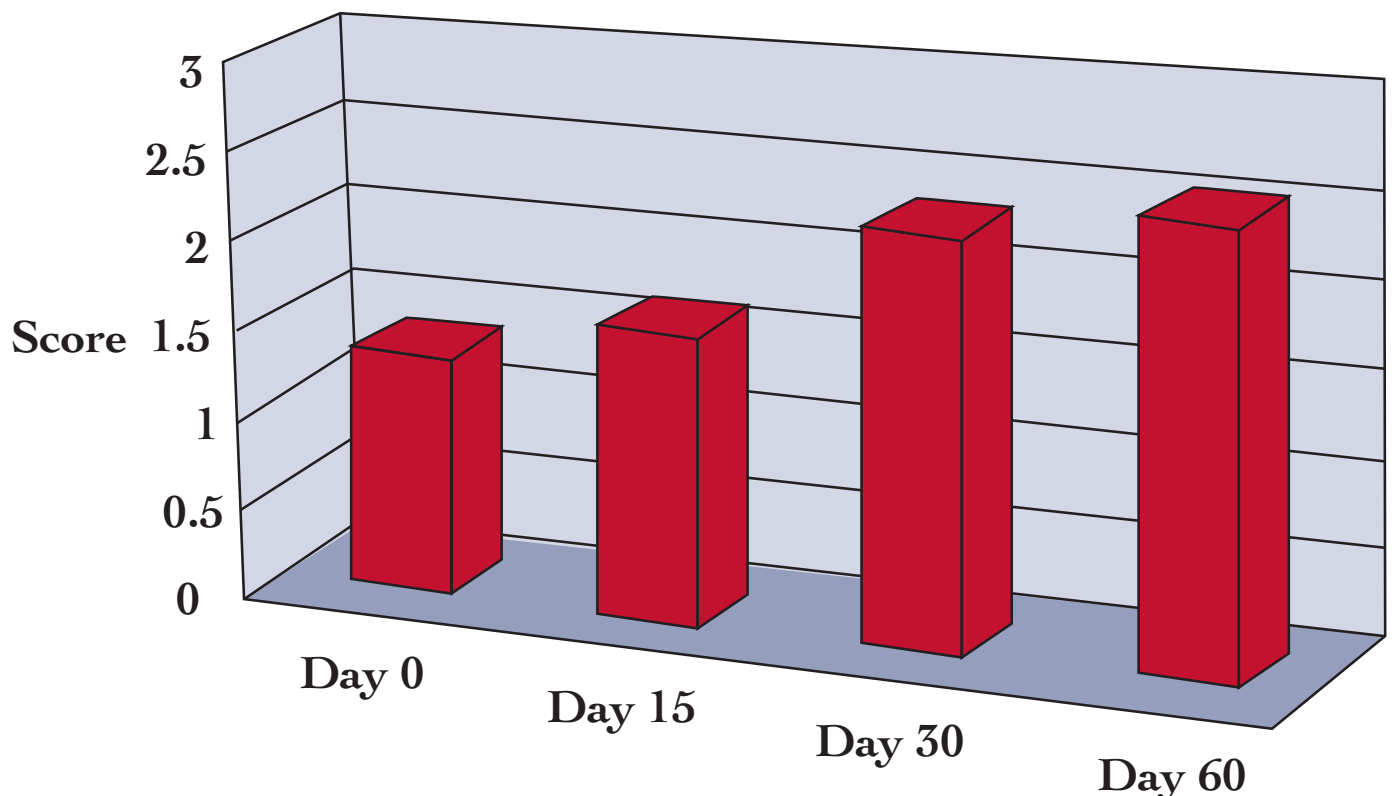
INDICATION	KOJIC ACID SKIN LIGHTENING	HYDROQUINONE SKIN LIGHTENING
MELASMA	VERY GOOD	EXCELLENT
HYPERPIGMENTATION	VERY GOOD	EXCELLENT
MELASMA in combination with 10% GLYCOLIC	EXCELLENT	EXCELLENT
HYPERPIGMENTATION in combination with 10% GLYCOLIC	EXCELLENT	EXCELLENT
STABILITY OF RAW MATERIAL	UNSTABLE	EXTREMELY UNSTABLE
STABILITY IN GLASS AMPOULES	VERY STABLE	NOT AVAILABLE because it is too thick
CANCER RISK	NO	POSSIBLE
BANNED COUNTRIES	NO	FRANCE

Since the mode of action on tyrosinase is distinct they are therefore effective in combination.

Kojic works by lightening the skin solely by suppressing tyrosinase activity (by inhibiting catecholase activity of tyrosinase)

Hydroquinone works by inhibiting the activity of tyrosinase by acting as a melanocyte cytotoxic inhibitor and by increasing the cytotoxicity of melanocytes (melanin-producing cells)

### COMPLEXION IMPROVEMENT WITH DERMASTIR KOJIC ACID





### **DIRECTIONS OF USE**

Break the top of the skincare ampoule. Distribute the precious serum directly on the skin or mix in a cream or in a mask. Massage delicately on the interested areas until completely absorbed.

### **NORMAL PROGRAMME**

Phase 1 : Apply one skincare ampoule every three days for a month.

Phase 2 : To consolidate the obtained results repeat phase 1.

### **INTENSIVE PROGRAMME**

Phase 1 : Apply one skincare ampoule on alternate days for a month.

Phase 2 : To consolidate the obtained results repeat phase 1.

### **WARNINGS**

Do not expose yourself to the sun. Avoid contact with eyes and in case rinse eyes with water. The skincare ampoule tip must be broken by using a piece of cloth.

