

Super Rare and Natural Antioxidant

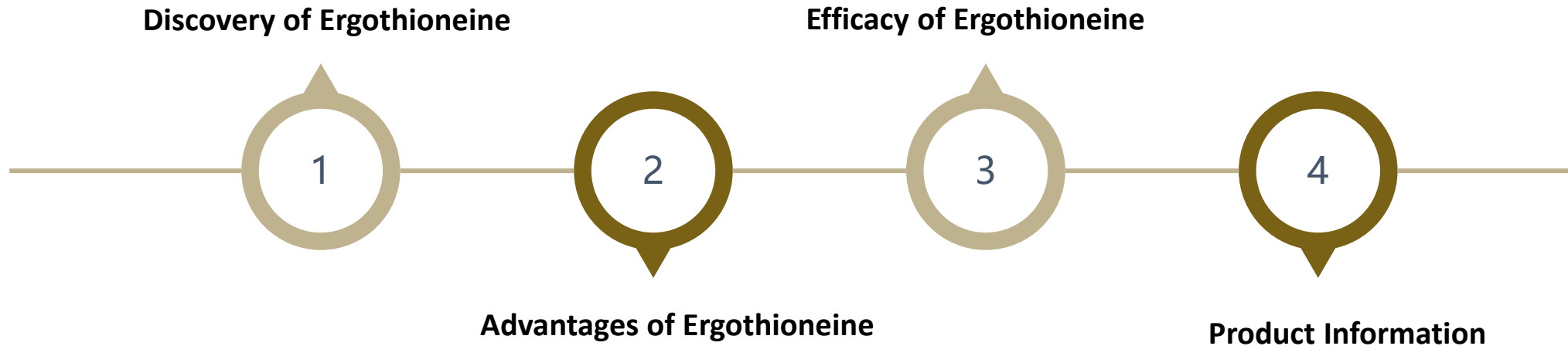


AC-EGT

INCI Name: Ergothioneine



Contents



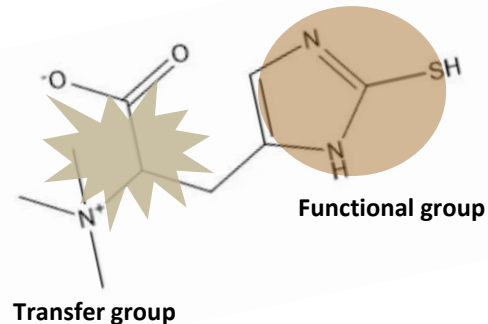
➡ Discovery of Ergothioneine



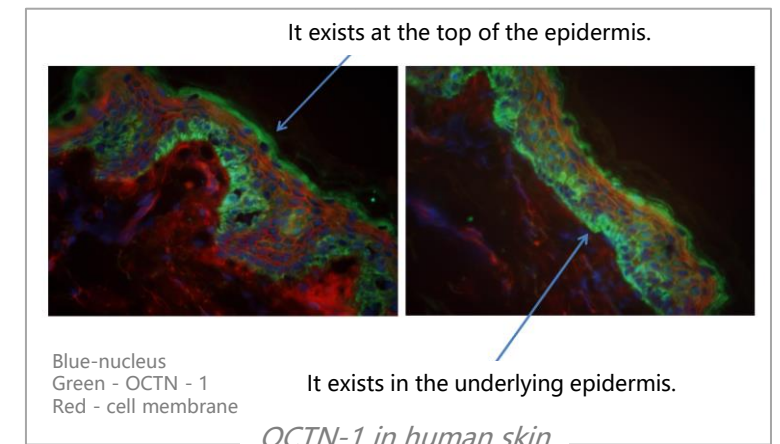
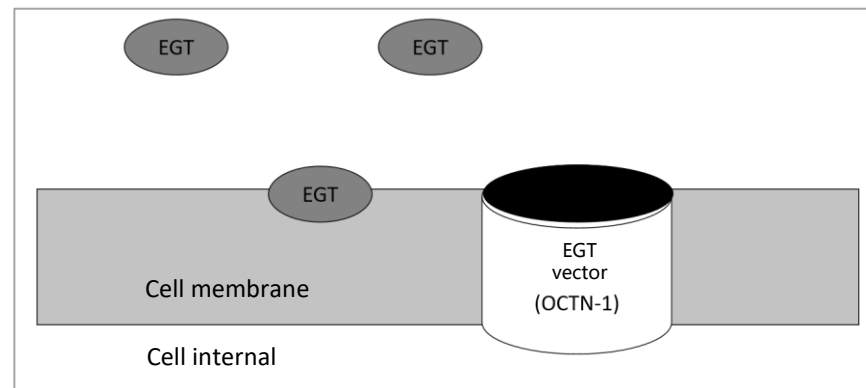
Ergothioneine (EGT), a rare natural amino acid, is discovered in ergot fungus in 1909.

Except for some bacterias (actinomycetes, cyanobacteria) and some fungi (streptomyces, mycobacteria, mushrooms) can naturally produce EGT, **the human or animal body itself has no ability to synthesize EGT and can only be obtained from food.**

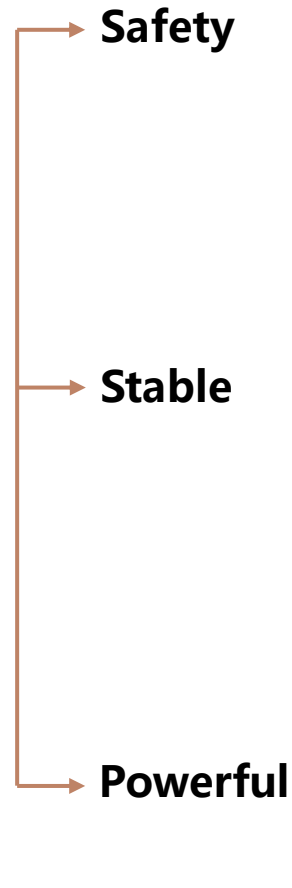
In 2005, the researchers discovered that all mammals make **a genetically encoded transport protein (OCTN-1)**, which quickly transfers EGT to the body's red blood cells, and then distributes it throughout the body, and accumulate in the tissues with the most severe oxidative stress.



EGT molecular structure
(2-mercaptol-L-histidine trimethyl salt)



➡ Advantages of Ergothioneine



Safety

EGT naturally occurs in the human body. And the European Food Safety Authority (EFSA) allows it to be added to dietary supplements.

Stable

Thione and thiol tautomers (The stability of thione is higher than that of thiol. Under normal circumstances, EGT exists in the form of thione, which is not easy to spontaneously oxidize. Glutathione and N-acetylcysteine are thiol structures).

High redox potential (at pH=7, the standard redox potential of EGT is -60 mV, and that of other naturally occurring thiols is between -200 and -320 mV).

Powerful

Antioxidant
Anti-inflammatory
UV resistance
Synergy

➡ High pH stability and thermal stability



That's why **EGT can be used as an alternative to glutathione** to better protect transplanted organs in the field of organ protection.

➡ Efficacy of Ergothioneine

In personal care and cosmetic products

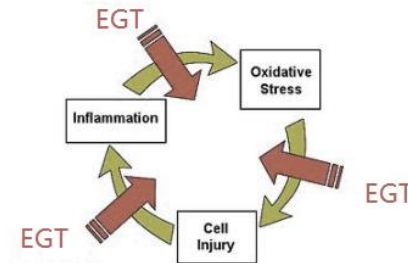
Clear active oxide/nitride,
Integrated Cu^{2+} , Zn^{2+} divalent metal ion

1

Activates antioxidant enzymes, such as glutathione peroxidase and manganese superoxide dismutase

2

Ergothioneine Interrupts a Vicious Cycle



3

Inhibits superoxide dismutase,
such as NADPH cytochrome C reductase

4

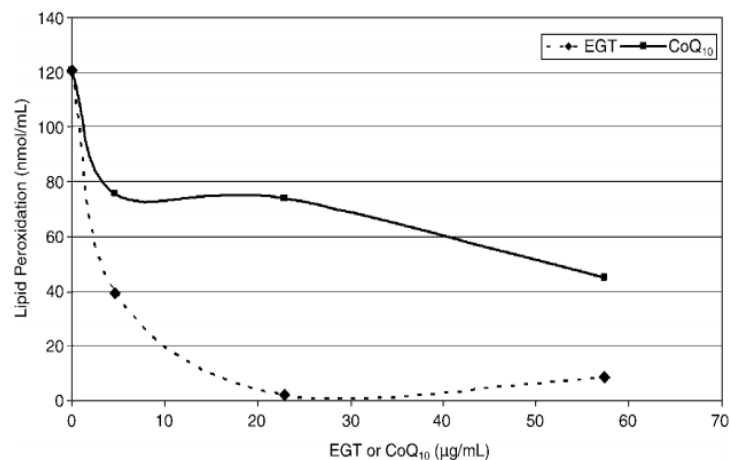
Affects the oxidation of various heme proteins,
such as heme and myoglobin,
Maintain cell physiological activity,
Resist UV rays, inhibits MMP-1



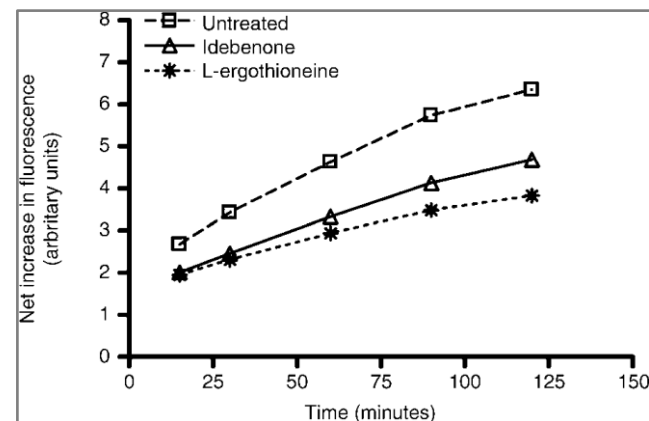
Efficacy of Ergothioneine

In personal care and cosmetic products

***Better antioxidant property than: Idebenone/Coenzyme Q10**

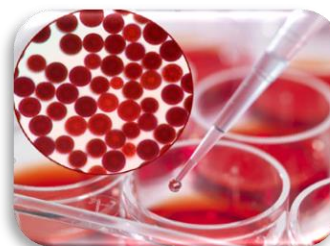


The ability of EGT and coenzyme Q10 to inhibit lipid peroxidation



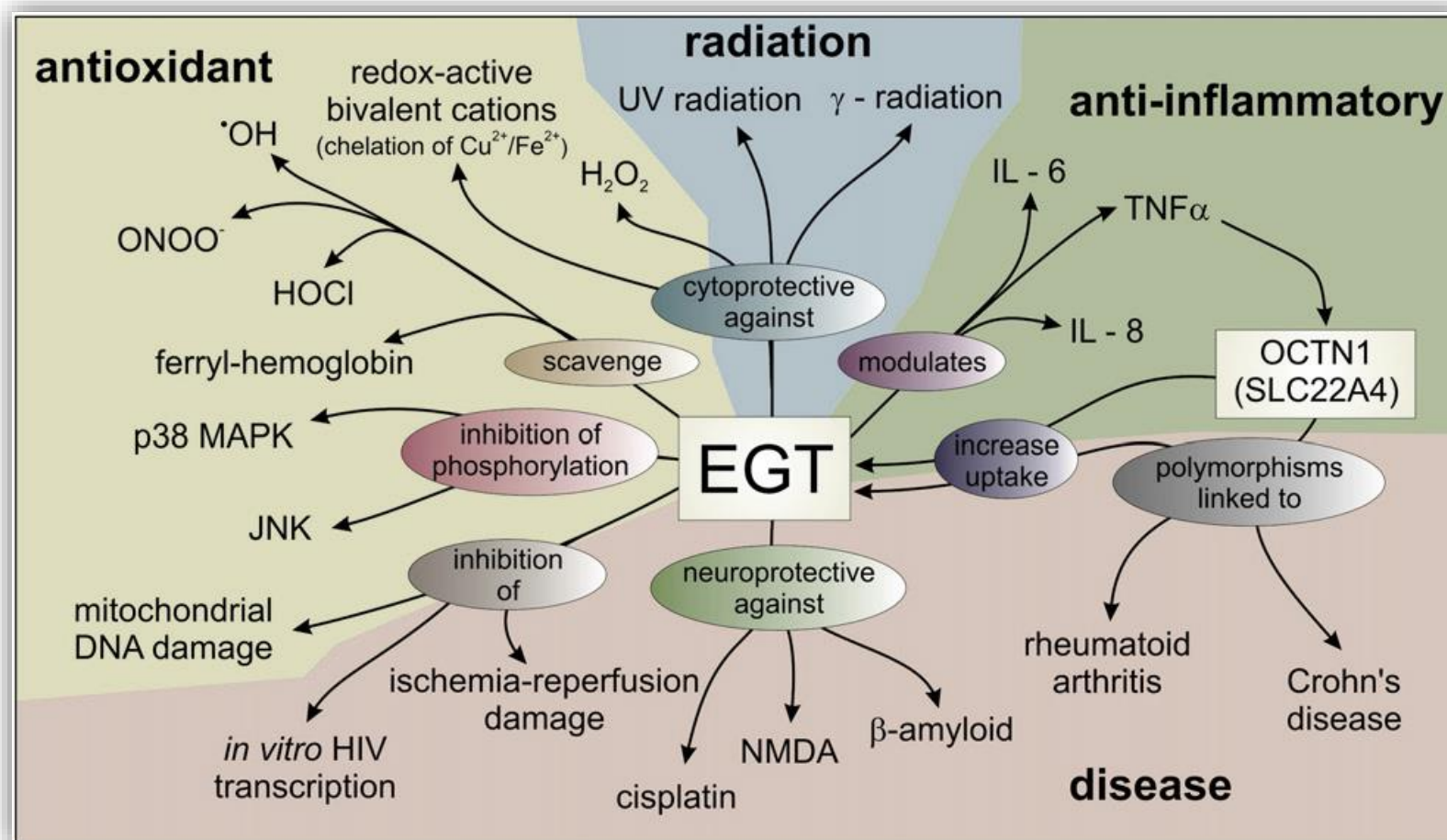
The ability of EGT and idebenone to directly clear H₂O₂

● Synergy with VC/VE/Astaxanthin/Glutathione



➡ Efficacy of Ergothioneine

Summary



➔ Product Information

PRODUCT NAME: EGT powder

INCI NAME: Ergothioneine

CAS No.: 497-30-3

ITEMS	SPECIFICATION
Appearance	White to light yellow powder
Assay	≥98%

PRODUCT NAME: AC-EGT

INCI NAME: Ergothioneine

CAS No.: 497-30-3

ITEMS	SPECIFICATION
Appearance	Clear and colorless liquid
Assay	0.05-0.06%



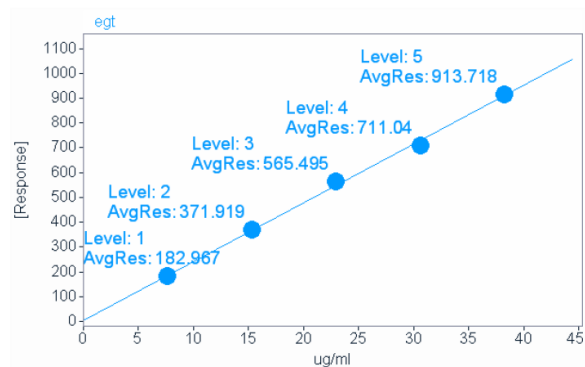
- Quality Control Center



Product Information

- EGT powder test report

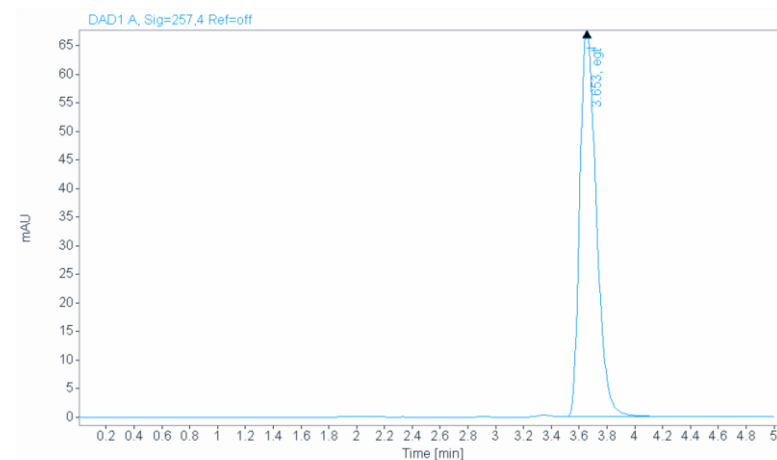
Compound: egt
Signal: DAD1A
Exp. RT: 3.648
Corr. Coeff.: 0.999393
Residual: 13.21925
RF RSD%:
Formula: $y = ax + b$
a: 23.68409
b: 4.20976
c: 0.00000
d: 0.00000



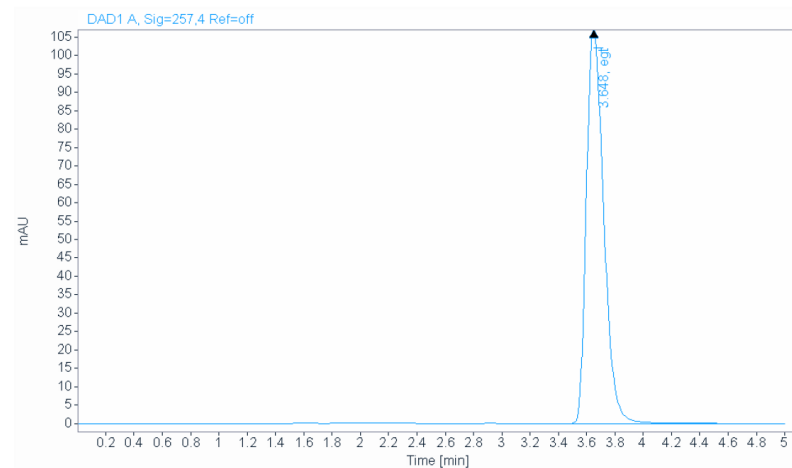
Sample Summary

Sample_Name	Compound Name	RT	Peak Area	Sample Amount [g]	Multiplier * Dilution	Amount	Compound Amount
EGT20191101-1	egt	3.652	561.536987	9.1600	50.000000	1176.5856	98.4482
EGT20191101-2	egt	3.653	561.616516	9.1800	50.000000	1176.7535	98.1867
						RSD	0.1441

- Reference substance HPLC chromatogram



- EGT powder HPLC chromatogram



➡ Application in famous brand final products (Estee Lauder, Clinique, La Prairie)





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