

# IACTIVE SOD

- Is the top multi-functional superoxide dismutating agent.
- Can effectively remove ROS.
- Has high stability at room temperature and high cost performance.

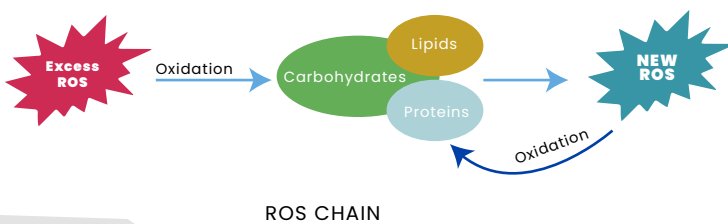


## What is ROS?

### Normal Physiological status



### Excess ROS

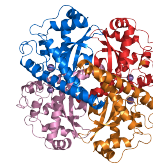


## Synthesis

Blue- Green Algae have evolved to have an enzyme that resists free radicals: superoxide dismutase (SOD)

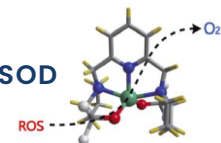
iActive SOD is the first multi-functional and world-leading biomimetic SOD, which is a small molecular structure synthesized by simulating the active center of superoxide dismutase in blue-green algae.

### Blue-green algae



SOD Structure

### iActive SOD

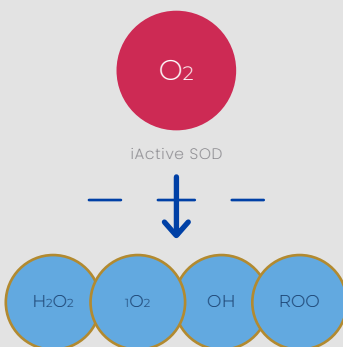


## Mechanism

iActive SOD can cut off the source of free radicals.

iActive SOD is a biomimetic SOD containing Ni ions, and its catalytic oxide reactions are as follows:

- $Ni^{3+} + O_2^- \rightarrow Ni^{2+} + O_2$   
Simultaneous reduction of  $Ni^{3+}$  and oxidation of superoxide  $O_2^-$
- $Ni^{2+} + O_2^- + 2H^+ \rightarrow Ni^{3+} + H_2O_2$   
Simultaneous oxidation of  $Ni^{2+}$  and reduction of  $O_2^-$
- $2H_2O_2 \rightarrow O_2 + 2H_2O$   
Reduction reaction catalyzed by the complex Ni ion.



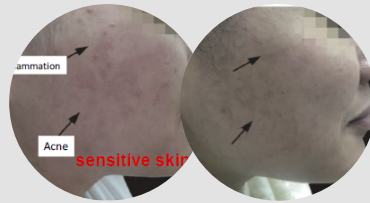
"Ni" ion is more active and better than other metals.  
"Ni" ion is also easier for the formula processing.





## CLINICAL TEST

### Redness

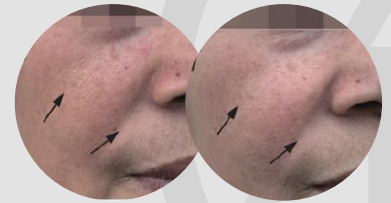


Day 0

Day 30

The subject's skin is sensitive. After applying 1% of iActive SOD for 30 days, the inflammation was improved.

### Anti-wrinkle

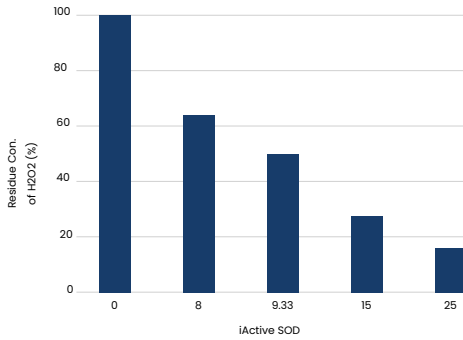


Week 0

Week 30

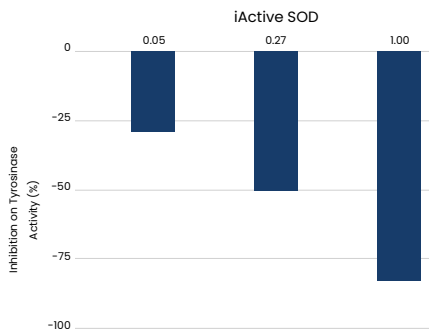
The subject's skin is sensitive. After applying 1% of iActive SOD for 30 days, the inflammation was improved.

### Hydrogen Peroxide Scavenger



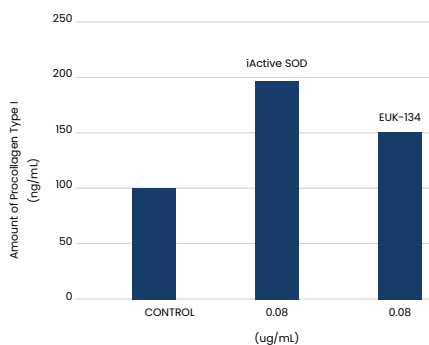
IC50 of iActive SOD removing H<sub>2</sub>O<sub>2</sub> is 9.33 Mg/mL.

### Whitening



iActive SOD is very effective in inhibiting tyrosinase to prevent melanin production IC50 is only 267.69 µg/mL.

### Collagen Synthesis



iActive SOD collagen synthesis test performance is better than EUK-134.



## TECHNICAL INFORMATION

Item	iActive SOD
Molecular Weight	÷950 Da
Solubility	(1) Water soluble (2) Oil soluble (Coming soon!)
Solubility	Stable activity for a long time
Price	Competitive
Ph Range	pH 3.5-9
Storage	Store in a cool place at room temperature and avoid direct sunlight.

### Application

iActive SOD can be widely used in skin care products, such as essence, mask liquid, toner, cream, and lotion.

### Note

The temperature should be lower than 70°C during the formula processing.

It is stable in the formula, even if it's opened, it will not degrade. Only combine with the free radical, it will degrade.

### Recommended dosage 0.5%-2%

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