

## Goji Stem Cells Research Paper

### APPEARS IN



Lycium Barbarum, also known as Goji, is a superfruit that is native to Asia and Southeast Europe. They belong to the same family as tomatoes and can grow up to 3 m tall. Traditional medicines have used Goji berries for over 2000 years to help treat a variety of conditions. Goji is renowned for its beneficial effects on the skin by improving the production of collagen and elastin fibers. Three Ships utilizes Goji Callus Culture Extract in [Firm Believer Goji Stem Cells + Pomegranate Smoothing Neck + Face Cream](#).

### GOJI BERRIES HAVE BEEN USED IN TRADITIONAL MEDICINE FOR CENTURIES FOR THEIR HIGH ANTIOXIDANT ACTIVITY

A major component of Goji berries is Lycium Barbarum polysaccharides which contain monosaccharides and amino acids that make Goji an effective antioxidant. They also contain molecules such as betaine,  $\beta$ -carotene, flavonoids, and more. Moreover, Goji Stem Cell Cultures are rich in mesenchymal cells that secrete exosomes. Exosomes increase collagen production which helps to improve skin elasticity and the appearance of fine lines and wrinkles.



Lycium Barbarum Callus Culture is cultivated, then the stem cell walls are disrupted by a solution of water and ethanol. Next, the oil and water soluble components are encapsulated and stabilized before being packaged. The exact method of extraction of Goji Stem Cells that Three Ships sources is proprietary information.

**GOJI IS RENOWNED FOR ITS BENEFICIAL EFFECTS ON THE SKIN  
BY IMPROVING THE PRODUCTION OF COLLAGEN**

Plant callus is used to describe disorganized cell masses which are often created to cover a plant wound. Scientists use callus to grow plants with ideal properties while conserving and protecting plants.

One of the key ways our bodies age is through oxidative stress, which is also known as free radical damage. Free radicals are substances or molecules that have an unpaired electron. These unpaired electrons like to be paired up and make free radicals so reactive because they want to pair with another electron to be "stable". In its unpaired electron form, it is so unstable that it will take an electron from anything around it to become more stable. When a free radical takes an electron, the substance that loses the electron to the free radical becomes oxidized, thus called oxidative stress. The substance that lost its electron will then become a free radical and a chain reaction starts where the oxidation of molecules continuously occurs.

An antioxidant is a substance that can neutralize free radicals. They are stable substances, even with an unpaired electron. Therefore, once an antioxidant comes in contact with a free radical, the antioxidant will donate an electron to the free radical and make it stable, whilst preventing a chain reaction of new free radicals from forming. Molecules such as Lycium Barbarum polysaccharides in Goji Stem Cells act as antioxidants.

**SCIENTIFIC STUDY**

Antioxidative activity of polysaccharide fractions isolated  
from *Lycium barbarum* Linnaeus

The present study examined the antioxidant effects of Goji polysaccharides through several methods. They measured the scavenging ability of DPPH free radicals, hydroxyl free radicals, superoxide anions, Trolox equivalent antioxidant activity, reducing power, and chelating of ferrous ions by a variety of polysaccharide fractions. It was found that most of the polysaccharides were effective scavengers of superoxide anions, DPPH, hydroxyl radicals, and ABTS<sup>•+</sup>.

Goji berries have been used in traditional medicine for centuries for their high antioxidant activity. They also help to improve the production of collagen and elastin which increases skin firmness. Goji Stem Cells can be found in Three Ships' Firm Believer Smoothing Neck + Face Cream.