

Pyrroloquinoline Quinone (PQQ)

This supplement was found to not only work as a powerful antioxidant that protects mitochondria from oxidative damage but to also stimulate growth of new mitochondria. Most of the studies surrounding this supplement have been done looking at memory and cognition in adults but many of the studies have some conflicts of interest associated with them, which makes it hard to trust the results as much as a third party trial.

That being said, there are some other studies that are more important in looking into PQQ's role. When we look at animal studies that trialed the *removal* PQQ from the diet, it became evident how important PQQ is to health. Studies that removed PQQ from the diet of mice and rats resulted in growth impairment, decreased immune function, and abnormal reproductive performance to name just a few. These PQQ-free diet studies also found that the PQQ deficient mice had 40% fewer mitochondria, and those were small and dysfunctional.

In 2003, Japanese scientists discovered that PQQ was an unidentified B vitamin. Vitamins by definition are those that our bodies can't make themselves and so we need to take them in through our diet. This finding in combination with the studies done involving PQQ-free diets is a compelling argument for the power of this previously unknown B vitamin.

As with everything we want to make sure we only supplement when absolutely necessary and that we also concentrate on dietary intake. The following foods have the most natural PQQ content:

Food	PQQ Amount (mcg per kg of food)
Kiwi	27
Papaya	27
Parsley	24
Green tea	30
Green Pepper	28

Food	PQQ Amount (mcg per kg of food)
Cocoa Powder	800
Egg Yolk	7
Cabbage	16

There is some evidence to show that this supplement has better results when taken with CoQ10, which makes sense since the importance and efficacy of CoQ10 is thoroughly established.

Dosing

Most studies used a 20mg dose, though dosages can range anywhere from 10–40mg. Start with 20mg once per day taken with food. Even though PQQ is water soluble and doesn't technically need to be taken with food, some studies showed stomach discomfort if taken on an empty stomach.

Cautions and Concerns:

Only short-term studies have been conducted using this supplement and no adverse reactions other than some stomach upset was noted.

This supplement is optional to take only if you want to while also taking your CoQ10.

Recommendations:

- [Double Wood PQQ 20mg per capsule](#)
- [Jarrow PQQ 20mg per capsule](#)