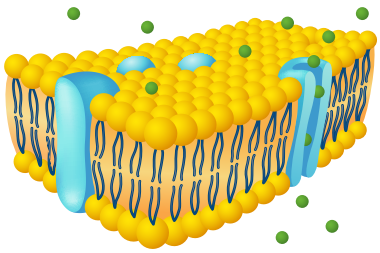
NUTRINED

focus

Who could say no to a reduction in fatigue with 52%?

Mitochondria have been defined as the powerhouses, the organelles where ATP is formed in every cell. But mitochondria do also operate as communication platforms where immunity and longevity is controlled. Mitochondrial damage goes far beyond fatigue.

Repairing damaged mitochondrial membranes



Mitochondrial membrane composition:

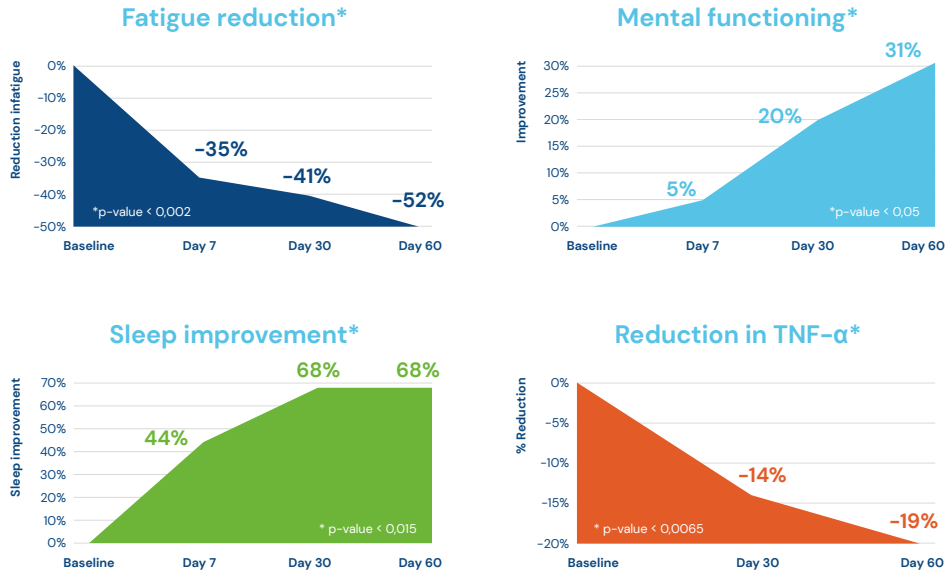
- Phosphatidylcholine 40%
- Phosphatidylethanolamine 30%
- Phosphatidic Acid 5%
- Other lipids 25%

By adding phospholipids it is possible to repair and rebuild the damaged layers.

- Gastro-intestinal cells, sufficiently saturated, begin to disperse throughout the body.
- Phospholipids will partition to areas of lower concentration.

Published research

An in-vivo, 8-week study, using ATP 360® as the sole nutritional intervention was conducted to assess changes in mitochondrial function and was peer-reviewed and published in *Alternative Therapies in Health and Medicine*. The study was conducted on participants who complained of long-term, unexplained fatigue. The participants were otherwise healthy with no medical diagnoses.



Research highlights

- Energy 52% ↑ after 2 months, energy 35% ↑ after 1 week
- Mental functioning 31% ↑
- Sleep quality 68% ↑
- TNF-α 19% ↓

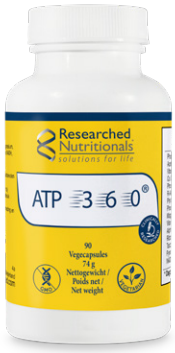
Hamilton D, Jensen GS. Nutraceutical Support of Mitochondrial Function Associated With Reduction of Long-term Fatigue and Inflammation. Altern Ther Health Med. 2021 May;27(3):8-18. PMID: 33882028.

Longevity treatments

The focus on repairing mitochondria in **longevity treatments** comes from the critical role mitochondria play in energy production and cellular health. Mitochondria are responsible for producing the majority of a cell's energy through a process called oxidative phosphorylation, where oxygen is used to produce ATP (the cell's energy currency). However, this process also generates free radicals, specifically reactive oxygen species (ROS), as byproducts. These free radicals can damage cellular components like proteins, lipids and DNA, leading to oxidative stress.

The most effective treatment for oxidative stress in longevity medicine involves a dual-composition approach:

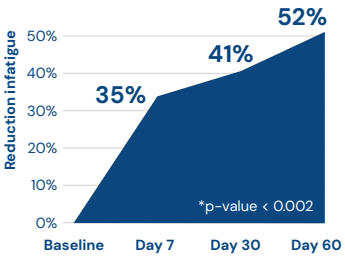
- ATP 360® to repair mitochondria and reduce the leakage of electrons and the formation of free radicals
- Tri-Fortify® targets neutralizing oxidative stress



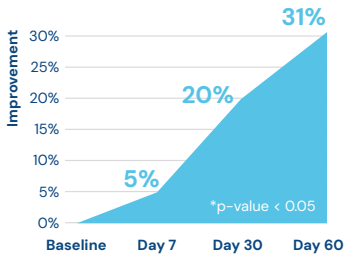
ATP 360®

indication	Mitochondrial repair Cognitive and physical fatigue	
dosage	Take 3 caps per day in the morning with breakfast	
packaging	90 vegecaps per container	
daily dose (based on 3 vegecaps)	Phosphatidylcholine	200 mg
	Acetyl-L-Carnitine	200 mg
	Vitamin C (as Ascorbic acid)	100 mg
	Co Q 10	100 mg
	Phosphatidylethanolamine	80 mg
	R-lipoic acid	75 mg
	Phyto Glycolipids	65 mg
	Phosphatidylinositol	55 mg
	Magnesium (as Dimagnesium malate)	50 mg
	Vitamin B1 (as Thiamine HCl)	50 mg
	Alpha ketoglutaric acid	50 mg
	Riboflavin (as Riboflavin-5-phosphate)	42 mg
	Tocotrienols (Deltagold ®)	30 mg
	Pyrroloquinoline Quinone (PQQ)	10 mg
	NADH (Panmol®)	5 mg

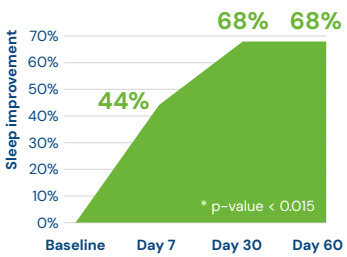
Fatigue reduction*



Mental functioning*



Sleep improvement*

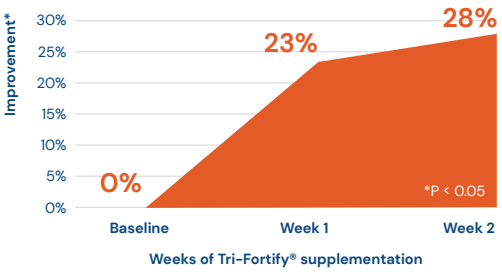


Tri-Fortify Orange® or Watermelon®

indication	Detoxification with glutathione in high bioavalable formulation, powerful antioxidant on tissue level and brain level Natural Killer Cell support	
dosage	1 teaspoon (1 pack) per day, away from food	
packaging	236 ml per tube or 20 packs per box	
daily dose (based on 1 teaspoon = 5 cc or 1 pack)	Glutathione Liposomal Vitamin C	450 mg 50 mg

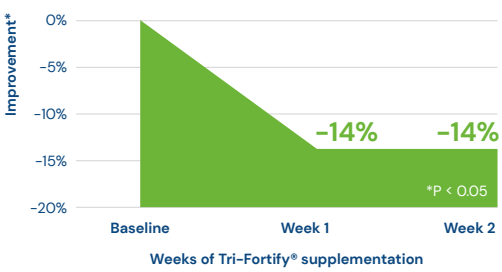
Glutathione levels

Increase in red blood cell levels (Erythrocytes)



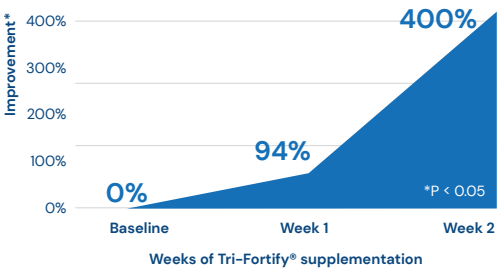
Oxidative stress markers

Oxidized / Reduced GSH



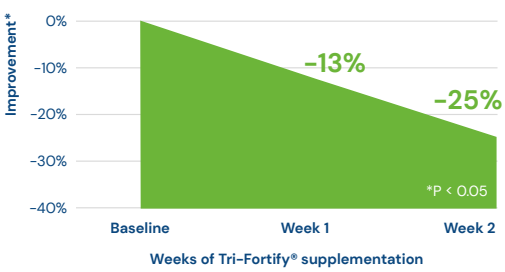
Immune function

Natural Killer Cell activity



Lipid Peroxidation

(Reduced Cellular Membrane Oxidation)



Published research : Sinha, R., Sinha, I., Calcagnotto, A., Trushin, N. Oral supplementation with liposomal glutathione elevates body stores of glutathione and markers of immune function. Eur J Clin Nutr. 2018 Jan;72(1):105–111.