

# **APPLICATIONS of MTR's HIGHEST PURITY SUBLIMED C60 IN BIOMEDICINE**

## **ARTICLES - PATENTS**

### **OIL and HIGHLY WATER-SOLUBLE FULLERENES C60**

#### **ANTI-AGING NUTRITIONAL SUPPLEMENT**

The Article (2005) – Prof. F.Moussa, Dr. S.Wilson et al.  
“[60] Fullerene is a Powerful AntiOxidant in “VIVO” with no Acute or Subacute Toxicity” – Nano Lett., 5(12): 2578-85, 2005  
<https://doi.org/10.1021/nl051866b>

The Highest Purity SUBLIMED C60, 99.98% Used as Received and has neither Acute or Chronic Toxicity in Living Organism, from Bacteria to Human Leucocytes, Mice, Rats, Pigs and has been proven to have a Powerful AntiOxidant Activity in “VIVO”.

The PATENT (2011) – Prof. F.Moussa, Dr. T.Baati

“[60] Fullerene Use to Maintain Good Health and to Prolong the Expected Lifespan of Mammals” – TN2011000327A1  
<https://patents.google.com/patent/WO2013025180A1/en>

Patented Method Doubles the Lifespan of a Mammal by Oral Administration of the Highest Purity 99.98% SUBLIMED C60 dissolved in oil.

The Article (2008) – Dr.Dugan et al.  
“CarboxyFullerene SOD Mimetic Improves Cognition and Extends the Lifespan of Mice” – Neurology of Aging, 2008, 29, 117  
<https://C60antiaging.com/pdf/C60-improves-brain-function-and-lifespan-of-mice.pdf>

SUBLIMED C60 CarboxyFullerene acts as a great Antioxidant

with Mitochondrial Activity that Extends Lifespan of Mammals.

The Patent (2017) – US9682150B1

“Anti-Aging Nutritional Supplement Compositions for Animals”  
Anti-Aging SUBLIMED C60 Nutritional Supplement act as Cellular  
Mitochondrial Revitalizer, effective Supporter of Immune System  
Decreasing Symptoms of Aging.

The Patent (2020) – US10842742B1

“Dissolved C60 and Method of Production Dissolved C60”

This Patent relates to the field of Nanomaterials and in particular  
to dissolve Nanomaterials in a Liquid Medium suitable for  
Therapeutics, Nutritional and Medicinal Application.

## **PHARMA**

MUTUAL PROJECTS\*of MTR with MER Corp. USA – Mitsubishi  
Corp. Japan – WU USA (Dr. L. Dugan) - C Sixty Inc. USA  
(Dr. R. Smalley – Nobel Laureate in Chemistry: Discovery of C60,  
Drs. S.Wilson, U. Sagman)

## **SUBLIMED C60 DERIVATIVES**

Powerful Antioxidant, Neuro-Protective and Anti-Tumor Agents  
Non-Human Primates

“CarboxyFullerene Neuroprotection Postinjury in Parkinsonian  
Non-Human Primates”, Annals of Neurology,  
DOI:10.1002/ana.242202014

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4165715/>

(SUBLIMED C60 CarboxyFullerene as a powerful Neuro-Protective  
Agent)

“CarboxyFullerene SOD Mimetic Improves Cognition and Extends  
the LifeSpan of Mice”– Neurology of Aging, 2008, 29, 117-128

<https://C60antiaging.com/pdf/C60-improves-brain-function-and->

### [lifespan-of-mice.pdf](#)

(SUBLIMED C60 CarboxyFullerene as a great Antioxidant with Mitochondrial Activity that Extends Lifespan and Cognition of Mammals)

“Fullerene-based AntiOxidants and Neurodegenerative Disorders’ Parkinson.Relat.Disord., 7(3), 243-246, 2001

<https://C60antiaging.com/pdf/fullerenes-help-familial-als.pdf>

“Synthesis and Anti-Tumor Activity of Novel Pyridinium Fullerene Derivatives” – Intern.J.NanoMedicine, 14, 6325-6337, 2019

<https://www.readcube.com/articles/10.2147%2Fijn.s212045>

(SUBLIMED C60 Derivatives show significant Anti-Tumor Activity “In VIVO”)

## **COSMETICS (ADVANCED AGING MEDICINE)**

**COSMETICS, COSMETOLOGY, DERMATOLOGY**  
**MTR’s HIGHLY WATER-SOLUBLE C60 (>> 100g/L)**

## **POLY HYDROXY FULLERENES (PHFs) C60(OH)<sub>n</sub>(n=40-44)**

Save, Stable, Biocompatible, Powerful Antioxidants with “The Highest Radical Scavenging Activity” can be used in the Next-Generation Creams (incl. Sunscreens with Superior UV Protection)

<https://downloads.hindawi.com/journals/jnm/2014/802596.pdf>

The Patent (2024) – US20240277587A1

“PolyHydroxyFullerene Sunscreen Active Agents & Compositions”

<https://patents.google.com/patent/US20240277587A1/en>

The Patent (2020) – WO2020243390A1 “Functionalized Fullerene Gel Tumor Treatment”(The Gel Compositions for Tumor Treatment by Laser Light: Clinical Medicine

“Cosmetic Compositions containing Fullerene Cluster”  
WO2006001784A1 (Cosmetic Compositions including SUBLIMED C60  
– highly effective to prevent Free Radical Oxidation process in Human  
Skin, for the Protection against intense Visible and UV Irradiation)

## **ANTI-AGING OPTICS**

In the Optics realm, SUBLIMED C60 shines brightly. Its advantages encompass improved vision, cognitive enhancement, hormonal equilibrium, and anti-aging aura for delicate eye skin.

MTR has been helping companies around the globe, including TESLA Hyper-light Eyewear <https://teslaglasses.co.nz> to produce Nano-Photonic soft and hard Lenses by the Highest Purity of the Sublimed C60 and Highly Water Soluble C60

## **C60 NANO WHISKERS**

Nano whiskers are novel crystalline thin solid fibers, a biocompatible material with low cytotoxicity for application in drug delivery, biosensors preparation, diagnosis, and treatment of heart, lung, cancer and blood diseases.

“Substrate having Fullerene Thin Wires & Method for Manufacture thereof” - Patent US8685160B2 (SUBLIMED C60,99.95 Plus%)

“Effect of Fullerene NanoWhiskers on Cytotoxicity and Gene Expression” – Health, v.2(12), 1456-1459, 2010  
<https://www.doi:10.4236/health.2010.212216>

## **ADVANCED BIOTECHNOLOGY**

“Optical Control of Mitochondrial Reductive Reactions in Living Cell using an Electron-Acceptor Linked Molecule” – NanoScale,

9(47), 2017, 18690-18698

(Novel Method of Photocontrol of Cellular Activity in Living Cells using SUBLIMED C60,99.98 Plus%)

“Self-Assembled Fullerene Crystals as Excellent Aromatic Vapor Sensors “– Sensors, 19(2), 267, 2019 (Pharma, Food, Cosmetics)

“The Design a new BioMaterials in Regenerative Stem Cell based Therapies”– Am.Chem.Soc. Appl.Nano Mater., 3(6497-6506), 2020 (Regenerative Medicine)

“Carbon Nanomaterials Promote M1/M2 Macrophage Activation” Small, 16(21), 2020 (Advanced Science News)

“MetalloFullerenols in BioMedical Application” Europ. J. Med. Chem., 238, 2022