SophorOx®

New Human Clinical Research

Scientifically Proven,

Flavonoid-Rich Antioxidant

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INNOVATION

SophorOx®

OXIDATIVE STRESS REDUCTION

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INNOVATION

SophorOx®

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SophorOx®

OXIDATIVE STRESS REDUCTION

A potent antioxidant to reduce oxidative stress and to support healthy inflammation response

- ✓ **Plant-based**
- ✓ **Scientifically-proven in vitro, in vivo and human clinical**
- ✓ **Versatile stand alone or complementary ingredient in dietary supplement formulations**

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INNOVATION

SophorOx®

OXIDATIVE STRESS REDUCTION



- ✓ **Select, synergistic polyphenols standardized to ≥ 90% flavonoids** *quercetin, rutin, isorhamnetin, kaempferol, genistin and genistein*
- ✓ **Derived from Sophora Japonica**
- ✓ **Safe, no adverse effects**
- ✓ **Powder and Granular versions**
- ✓ **Sustainably grown and harvested**
- ✓ **Non-GMO Verified, Kosher, Halal, Gluten Free**

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In Vitro Study

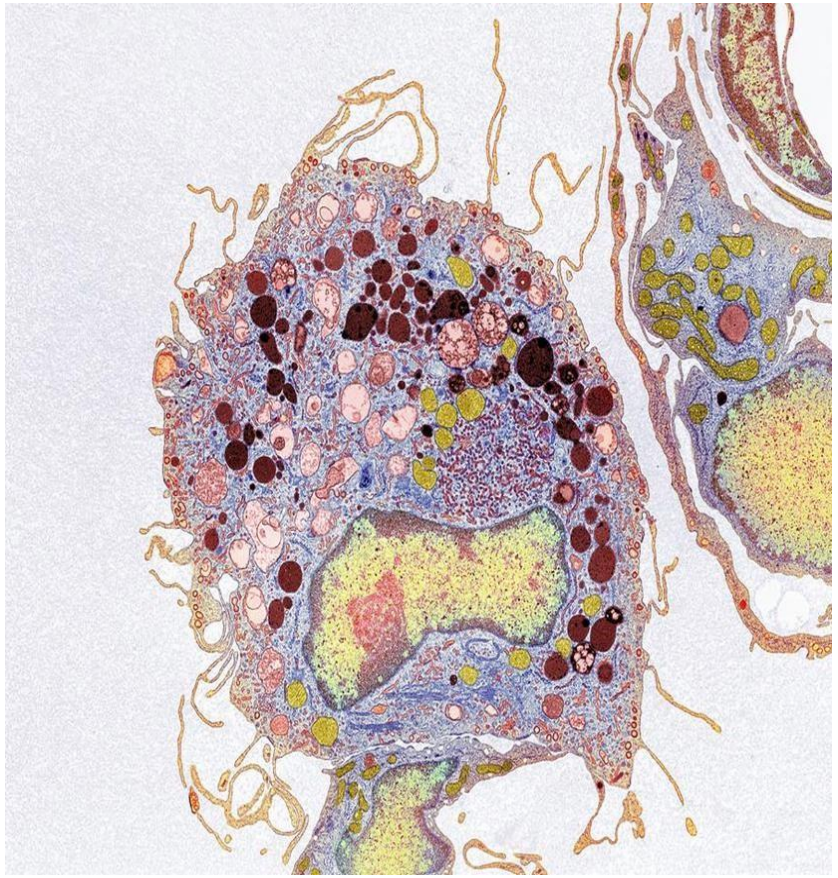
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In Vitro

in Vitro Cell Based Assay Yielded Significant, Positive Results

- ✓ SophorOx® *"is a potent antioxidant and anti- inflammatory agent and displays prominent ability to block mediators of oxidative stress and inflammation."*

- ✓ ***Journal of Complementary and Integrative Medicine*** 2022 Feb 18;19(3):637-644. doi:10.1515/jcim-2021-0568
  "*Assessment of anti-inflammatory and antioxidant activity of quercetin-rutin blend (SophorOx™) - an invitro cell based assay"*



➔ Green light for in vivo study

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INNOVATION

In Vivo Study

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in Vivo Findings Also Significant



In Vivo

Daily oral administration of SophorOx® (equivalency 500 mg/day for average adult) is:

- ✓ ***"powerful antioxidant and anti-inflammatory agent … significantly reduce the high levels of oxidative stress and inflammation associated with high intensity exercise"***
- ✓ Daily oral administration with no adverse effects
- ✓ Currently being peer reviewed for publication in ***The Scientific World Journal***

➔ Green light for human clinical study



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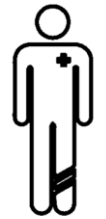
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Human Clinical Participants

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SophorOx®
Human Clinical



Clinical

Inclusion Criteria:

- Males and females aged 18-40 years with sedentary lifestyle
- No history of systemic/local infection in last 2 months
- **Obese participants** (at high risk of oxidative stress and inflammation) identified as **BMI ≥ 25.0 kg/m² and ≤ 34.9 kg/m²** (174 lbs or more)
- Non-smokers (Past smokers allowed if abstinence for minimum of 2 years)

Exclusion Criteria:

- Known sensitivity to polyphenols
- Presence of uncontrolled type II diabetes or hypertension
- Consumption of supplements to alleviate oxidative stress and systemic inflammation
- History of any significant neurological and psychiatric condition
- Substance abuse
- Females who are pregnant/planning to be pregnant

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Human Clinical Protocol

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SophorOx®
Human Clinical





- **Sample Size**: 50 overweight or obese adults
- **Duration:** 2 months
- **Dosage:** 500 to 1,000 mg per day (Human Dietary Supplement Application)
- **Primary Objective:** Assess Changes in Oxidative Stress
- **Secondary Objective:** Assess Changes in BMI, Weight, and Waist Circumference - Assess Changes in Quality of Life via a Questionnaire
- **Biomarkers Measured for Oxidation and Inflammation**
- **Screening:** Baseline, 28 Days, and 56 Days
- **Safety Parameters:** Vital Signs, Safety Lab Parameters (Liver, Kidney, Heart) and Adverse Event Reporting

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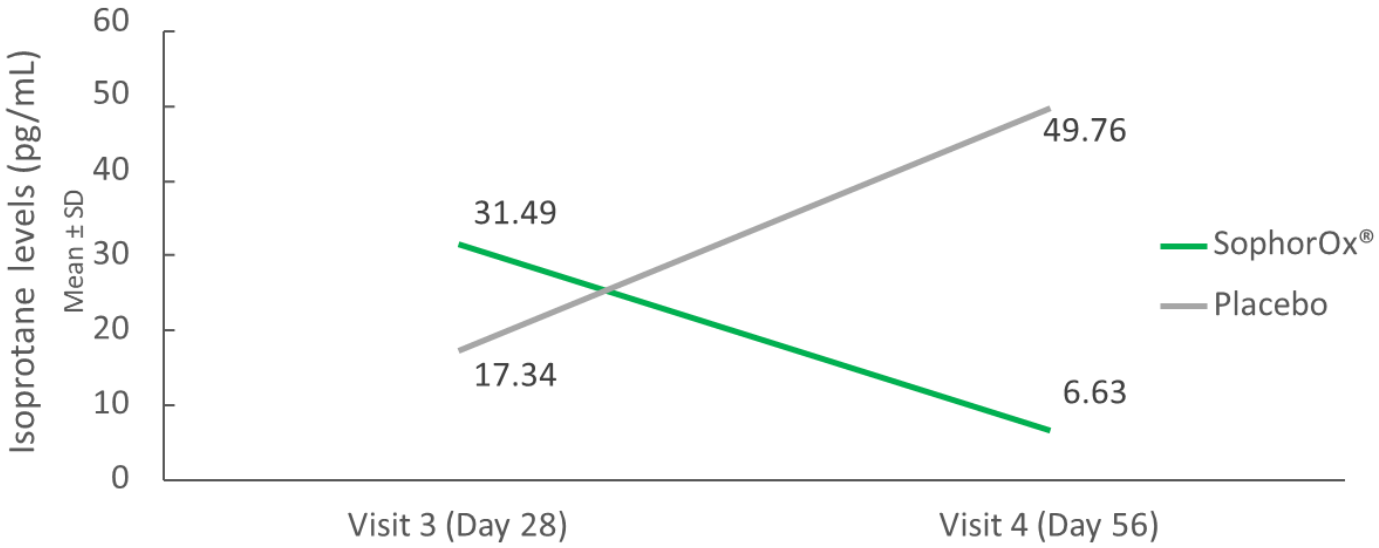
Human Clinical Results

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SophorOx®

Reduced Oxidative Stress 600% (6x)

Isoprostane levels Were Reduced A Statistically Significant **600% (6x)** vs placebo group



Isoprostane: A reliable biomarker of lipid peroxidation, which is used as a marker of antioxidant deficiency and oxidative stress.

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Human Clinical Results

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By Reducing Oxidative Stress, SophorOx® Also Significantly Improved Weight Management and Quality of Life

Weight Management:

- **Body Mass Index:** 13 times reduction in BMI vs placebo group
- **Weight Reduction:** 15 times better vs placebo group
- **Waist Circumference:** 8 times lower vs placebo group

Quality of Life:

Participants in the SophorOx® group expressed 12 times greater Quality of Life attributes vs. placebo

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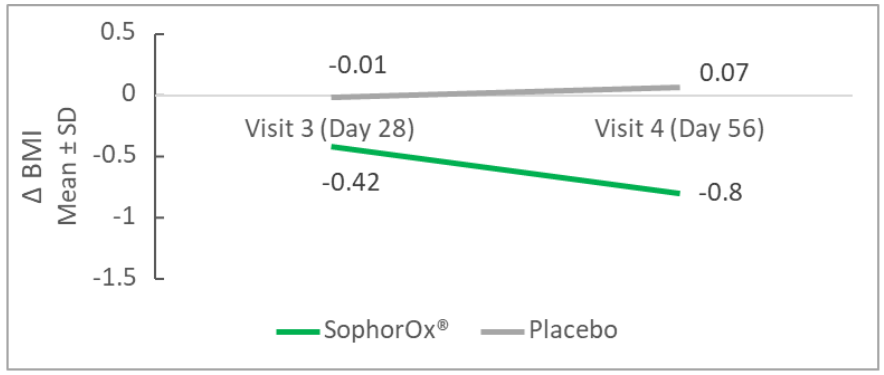
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Human Clinical Results

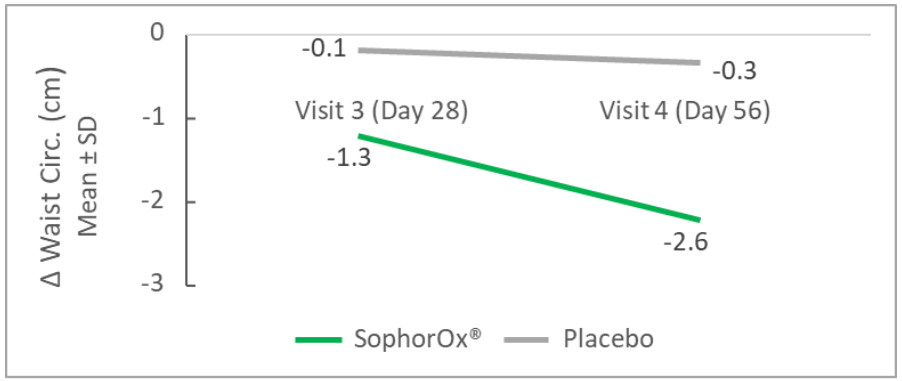
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Weight Management Results in Graphs



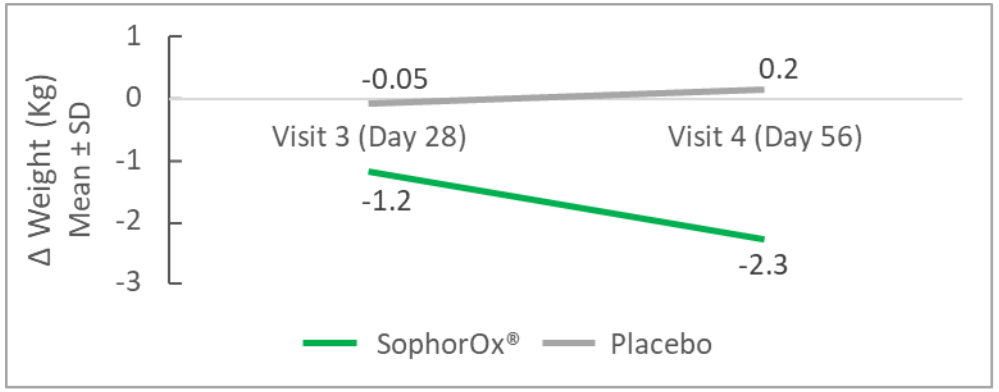
Change In Body Mass Index (BMI)

Reference values: 18.5–24.9, Normalweight; 25.0–29.9, Pre-obesity; 30.0–34.9, Obesity class I; 35.0–39.9, Obesity class II; Above 40, Obesity class III.



Change for Waist Circumference (cm)

Reference values of having a higher risk of developing obesity-related conditions: For males, more than 100 cm; for females, more than 85 cm.



Change for Weight (Kg)

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SophorOx® Ability to Help a Growing Problem

Overweight Population



World Health Organization global estimates:

- ✓ Worldwide obesity has nearly tripled since 1975.
- ✓ In 2016, more than 1.9 billion adults aged 18 years and older were overweight. Of these over 650 million adults were obese.
- ✓ In 2016, 39% of adults aged 18 years and over were overweight.
- ✓ Overall, about 13% of the world's adult population were obese in 2016.

Overweight populations have higher risk of heart, diabetic, osteoarthritic, gut, digestive, and other poor health condition states.

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SophorOx® Consumers

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Compelling Consumer Segments for SophorOx®

- ✓ **Obese Populations**
  - This segment experiences higher oxidative stress
- ✓ **Workers and Students**
  - Sedentary lifestyles.

  Antioxidants can help maintain good vision and brain health
- ✓ **Healthy Agers**
  - By 2050, 1 in 5 people will be age 60 years or over and older populations are prone to weight gain. Aging populations with disposable incomes seek preventative strategies to live longer, healthier lives.
  - ✓ Opportunities: Joint health, inflammation, cognition, eye health, cardiovascular, skin, and more
- ✓ **Millennials/Younger Generations/Children**
  - Obesity is growing, and these segments can benefit greatly with preventative health
- ✓ **Pet Applications**
  - 67% of US households own a pet and consumers are increasingly looking for functional, natural ingredients for pets including top pet ailments related to weight, including joint pain and inflammation

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SophorOx® Application

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SophorOx®
OXIDATIVE STRESS REDUCTION

Key Applications & Formats







PREFERRED SUPPLIER
nasc
NATIONAL ANIMAL SUPPLEMENT COUNCIL

- Powders
- Capsules
- Soft gels
- Tablets
- Nutrition Bars
- Topicals

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Thanks for your time!

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