Structural formulas for EPA and DHA ester ethers are:

**Eicosapentaenoic Acid (EPA) Ethyl Ester**

**Docosahexaenoic Acid (DHA) Ethyl Ester**

The molecular weight of EPA ethyl ester is 330.5 and has an empirical formula of C_{22}H_{36}O_2; and DHA ethyl ester has a molecular weight of 396.6 and an empirical formula of C_{26}H_{40}O_2.

**Physical Description**

VASCEN® is distributed as an oil-purified, light yellow, oil-stabilized, transparent softgel capsule in 15-count blister cards. Capsules are intended for oral administration and contain a minimum of 900mg Omega-3 fatty acids by weight, composed of a combination of at least 600mg EPA and 110mg DHA in a weight ratio of 6:1 in each 1 capsule. VASCEN® undergoes multiple independent third party testing for safety and purity.

**CLINICAL PHARMACOLOGY**

**EPA and DHA**

VASCEN® is intended to restore and sustain healthy levels of EPA and DHA in a patient's blood. Increased dietary levels of EPA and DHA have been shown to have a host of cardioprotective benefits. Scientific literature suggests a correlation between high circulating blood levels of EPA and DHA with a reduction in the risk of cardiovascular disease. Benefits of EPA and DHA have been documented in a number of clinical trials.12,13 These include positive effects on lipid metabolism, blood pressure, heart rate, platelet aggregation, inflammation and helping to reduce the risk of cardiovascular disease 13,14.

**CLINICAL EXPERIENCE**

Clinical dietary management of Omega-3 deficiency in patients with CVD can be achieved with VASCEN® at a dose of four (4) capsules per day.

The safety and efficacy of VASCEN® was evaluated in an open label clinical study that assessed Omega-3 Deficiency and efficacy of VASCEN® for the treatment of Omega-3 Deficiency in patients with CVD. The study evaluated a treatment regime consisting of four capsules daily of VASCEN®™ and monitoring of blood Omega-3 levels over six weeks. The Open label study consisted of 143 subjects with evidence of baseline Omega-3 Deficiency, assessment, of which 63 subjects were scheduled to receive VASCEN®™ treatment and 80 subjects Omega-3 Deficiency, presenting as a percentage of total whole blood fatty acids. Subjects in the study had an average age of 19 years. This study revealed a baseline Omega-3 Deficiency15 in over 84.5% of the subjects when tested with the Omega-Score™ blood test (Table 1, Figure 1). VASCEN®™ treatment resulted in a significant (p<0.0001) improvement in Omega-3 blood levels within two weeks, raising the mean Omega-Score™ from 0.6% to 5.2% within six weeks (Table 2, Figure 2).

**TABLE 1. Study Participant Baseline Characteristics**

<table>
<thead>
<tr>
<th>Patient Group</th>
<th>Total No.</th>
<th>Male No.</th>
<th>Female No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omega-Score™</td>
<td>3.4±1.1</td>
<td>3.4±1.1</td>
<td>3.4±1.1</td>
</tr>
<tr>
<td>Mean</td>
<td>16.5±0.4</td>
<td>16.5±0.4</td>
<td>16.5±0.4</td>
</tr>
<tr>
<td>%</td>
<td>84.5%</td>
<td>84.5%</td>
<td>84.5%</td>
</tr>
<tr>
<td>% of Patients at Risk</td>
<td>84.5%</td>
<td>84.5%</td>
<td>84.5%</td>
</tr>
</tbody>
</table>

VASCEN®™ increases patient group Omega-Score™ means with significant improvements (p<0.0001) as low as two weeks after treatment (6.4±1.6, p<0.0001). After four weeks, Omega-Score™ means surpass 65.5% of the “optimal” 80% range and remain in this range through week 6 (p<0.0001). At the beginning of the study, 65.4% of patients were Omega-3 Deficient, and by week six, 13.2% of study subjects were deficient, illustrating the efficacy of VASCEN®™ use as an aid in the dietary management of Omega-3 Deficiency, Confidence interval (CI), “<” (means ± standard deviation),

**FIGURE 1. Study Participant Baseline Omega-Score™ Values**

Out of 143 study participants, the majority of patients had a baseline Omega-Score™ of less than 6.1%, indicating an Omega-3 Deficiency, irrespective of sex.
Study subjects were administered four capsules per day of VASCazen® supplying 3g EPA and DHA per day and were monitored for safety and efficacy, increasing Omega-Score™ values from baseline levels. A significant improvement was observed within two weeks, with 86% of subjects reaching the low risk Omega-Score™ quartile within six weeks.

VASCazen®-REVEAL Trial

VASCazen® safety and efficacy was evaluated in a double-blind, randomized, placebo-controlled trial. The study screened 665 candidates for Omega-3 plasma levels, and 93% were found to be Omega-3 Deficient. Of the 665 screened subjects, 110 met all study inclusion and exclusion criteria for treatment assignment for being Omega-3 Deficient, with one or more risk factors for CVD were enrolled in the trial. Patients with CVD risk factors included hypertension (SBP >140 or DBP >90 mmHg, or on medication for hypertension) or diabetes (HbA1c >7.5%). The study randomized patients to receive 90 capsules of VASCazen® or placebo daily for two months. The results show that VASCazen® effectively corrected the Omega-3 Deficiency by increasing Omega-3 blood levels from these individuals that were associated with moderate to very high risk to individuals with low risk of sudden death from cardiac causes.

Specifically, VASCazen® treatment of subjects with high TG (COCHR 2) resulted in a significant improvement (121%, p<0.0001) in median Omega-Score™ levels (81%) and Omega-3 levels (121%, p<0.0001) within eight weeks with a placebo-adjusted 44% reduction of TG (p<0.0001), a 3% increase in HDL-C (p<0.0001) with a statistically significant increase in LDL-C (p<0.0114) or other secondary endpoints (Table 3). In the normolipidemic high TG group (Cohort 1), VASCazen® treatment also significantly corrected the Omega-3 Deficiency and improved patients’ Omega-Score™ by 121%.

Allergen Statement: VASCazen® contains fish oil and soy products. Patients with known hypersensitivity to fish or soy products should notify their physician.

Adverse Reactions: In an open-label and a double-blind, randomized, placebo-controlled VASCazen®-REVEAL Trial, VASCazen® treatment for six to eight weeks was well-tolerated and adverse events were minimal. None of the adverse events reported in the Open Label study, two subjects experienced a mild reflex tachycardia, while an additional subject showed minor leg pain that disappeared within 3 days. In the VASCazen®-REVEAL Trial, minor adverse reactions were reported: mild burp (5% of patients), flatulence (4% of patients), and nausea (4% of patients), although 5% of patients in the placebo group also experienced similar outcomes.

Food Effects: VASCazen® may be taken with or without food. Some patients may experience a mild aftertaste/burp, and taking VASCazen® with food may help reduce this effect.

Drug Interactions:

Although clinical studies investigating the effect of VASCazen® plus aspirin have not been completed, caution should be taken when taking VASCazen® with aspirin or anticoagulants. Omega-3 fatty acids may extend bleeding time and reduce the effectiveness of anticoagulants. VASCazen® should be taken separately from aspirin or anticoagulants. Patients should be monitored closely for any of the ingredients in VASCazen® that could potentiate their risk of bleeding.

Cautions:

If you are pregnant, nursing or planning on becoming pregnant, ask your physician if VASCazen® is right for you. Safety studies have not yet been completed for the use of VASCazen® in pregnant or nursing women or pediatric patients (children under 18 years of age). Also, this product contains fish components and trace amounts of soy. Patients with a known hypersensitivity to any of the ingredients in VASCazen® should report their physician prior to taking VASCazen®.

How supplied: VASCazen® capsules are supplied as transparent yellow gelatin capsules, filled with light yellow, ultra-purified fish oil. VASCazen® is manufactured according to Food and Drug Administration (FDA) current good manufacturing practices. Commercial product is supplied in 60-capsule bottles.

PHYSICIAN SUPERVISION:

VASCazen® is a Medical Food prescribed by subscription only under ongoing physician supervision.

STORAGE:

59-77°F (15-25°C), keep from freezing, protect from direct sunlight.

Manufactured by:

Cepatex S.A. of Switzerland, Basset, FL 33021
P: 561-286-2331
Website: www.vascazentherapies.com

REFERENCES:


VASCazen® is protected by a series of both issued and pending US and foreign patents.