BACKGROUND:
• In patients with severe hypertriglyceridemia (TG > 500 mg/dL), the National Cholesterol Education Program (NCEP) Adult Treatment Panel (ATP) III recognized that statins are not powerful triglyceride (TG)-lowering drugs, and therefore recommended the use of specific therapies such as omega-3 fatty acids at higher TG levels.1
• Once absorbed, the omega-3 fatty acids EPA and DHA lower serum TGs by reducing hepatic secretion of triglyceride-rich lipoproteins.2
• Esterified (EE) or free fatty acid (FFA) forms of omega-3 fatty acids are generally preferred for oral delivery because of increased bioavailability.3
• While the bioavailability of omega-3 fatty acids is affected by absorption and metabolism, a key factor is the ability to convert to triglyceride-rich lipoproteins.

STUDY DESIGN
• Steady-State Bioavailability of EPA/DHA is Markedly Improved with a Free Fatty Acid Compared to an Esteryl Ester Formulation

OBJECTIVE:
• To compare the bioavailability of baseline-adjusted Total EPA+DHA, Total EPA, and Total DHA following multiple-dose administration of Epanova® (FFA of EPA/DHA) compared to multiple-dose administration of Lovaza® (EE of EPA/DHA), in a concomitant with a low-fat diet.

METHODS:
• STUDY DESIGN
• Open-label, parallel, 2-cohort study with 26 healthy male and female subjects (18 - 55 yrs of age) per cohort. The duration of the study was approximately 22 weeks (excluding screening).
• Subjects were screened for study participation within 28 days of dosing.
• On Day -8, subjects were admitted to the clinic and remained confined until completion of all study procedures on Day 15.
• Subjects followed a Therapeutic Lifestyle Changes (TLC) diet throughout the entire study (see Figures 2 and 3).

RESULTS:
• The study enrolled 26 healthy adult male and female subjects per cohort for a total of 52 subjects, and 51 subjects completed the study.

CONCLUSION:
• At steady-state, the significantly greater bioavailability of the individual FFA of EPA and DHA from Epanova® resulted in the approximately 6-fold greater bioavailability mean exposure to baseline-adjusted plasma Total EPA+DHA, Total EPA, and Total DHA from Epanova® relative to those from the EE present in Lovaza® under low-fat dietary conditions. These differences in steady-state bioavailability of EPA and DHA are likely to have clinical relevance for patients with severe hypertriglyceridemia maintained on a low-fat diet. There were no serious adverse events in this study and no subject was discontinued due to an adverse event.

REFERENCES: