ALTASCIENCES

CLINICAL CASE STUDY

A Single-Center, Double-Blind, Placebo-Controlled, Randomized, Adaptive, First-in-Human Study to Assess Safety, Tolerability, Pharmacokinetics, and Food Effect of Single and Multiple Ascending Doses of a Novel Small Molecule Administered Orally in Healthy Male and Female Subjects

STUDY OVERVIEW

This study was a single-center, randomized, placebo-controlled, double-blind, adaptive, first-in-human (FIH) study in healthy subjects. The primary objective was to demonstrate the safety, tolerability, and pharmacokinetics of a novel small molecule compound. The study was conducted in two parts. The first part consisted of a single ascending dose (SAD) design (combined with a food effect evaluation) performed at six dose levels. The second part consisted of a multiple ascending dose (MAD) design performed at three dose levels. Both parts had adaptive design features allowing for flexibility in doses given, frequency of dosing, and other elements integral to subject safety and risk mitigation.

STUDY DETAILS

- **Class of Drug:** Small molecule
- **Population Type:** Healthy normal subjects
- **# of Participants:** 90 randomized
- **Time to recruit panel at Altasciences:**
  SAD – 8 weeks (FSFV Cohort 1 – LSLV Cohort 6)
  MAD – 8 weeks (FSFV Cohort 1 – LSLV Cohort 3)
- **Study Design:** Single-center, randomized, placebo-controlled, double-blind, adaptive.
- **Key Inclusion Criteria:**
  - Males and females 18 to 55 years old
  - Non or ex-smoker
  - Clinical laboratory values within laboratory's stated normal range
  - No clinically significant diseases captured in Med Hx or evidence of clinically significant findings on the physical examination and/or ECG
- **Key Exclusion Criteria:**
  - Pregnant or breastfeeding.
  - Presence or history of significant gastrointestinal, liver, or kidney disease
  - Presence of clinically significant ECG abnormalities at screening
  - Any clinically significant illness in the 28 days prior to the first study drug administration
  - Use of any prescription drugs in the 28 days prior to the first study drug administration that would put into question the status of the subject as healthy (per investigator judgement)
- **Services Provided:** Clinic and supporting research services (Project Management, Medical Writing, Data Management, and Statistics)

A Single-Center, Double-Blind, Placebo-Controlled, Randomized, Adaptive, First-in-Human Study to Assess Safety, Tolerability, Pharmacokinetics, and Food Effect of Single and Multiple Ascending Doses of a Novel Small Molecule Administered Orally in Healthy Male and Female Subjects

STUDY PURPOSE

To investigate the safety, tolerability, and pharmacokinetic profile of a novel small molecule compound, when administered orally at ascending dose levels as a single dose in the absence and presence of a high-fat meal, and after multiple doses.

METHODS

In Part A (Single Ascending Dose), 10 subjects were randomized in each of the 6 ascending dose cohorts to receive either one oral dose of the study compound or matching placebo in a 8:2 ratio. A sentinel group of 2 subjects (assigned 1:1 to study compound or placebo) was dosed at least 1 day prior to dosing the remaining subjects in each cohort. All subjects were confined at our clinical research unit for 48 hours after dosing. Dosing between cohorts was separated by at least 7 calendar days in order for a blinded safety data review to be performed by the Safety Review Committee (SRC). The food effect evaluation was conducted in the third cohort after a 10-day washout period, as decided by the SRC.

In Part B (Multiple Ascending Dose), 10 subjects were randomized in a similar fashion to Part A, in each of the 3 ascending dose cohorts. Each subject was dosed the assigned treatment twice daily for 7 consecutive days. All subjects were confined for 48 hours after the last study drug administration, and discharged on Day 9.

In both parts of the study, dose stopping and study stopping rules were established a priori and followed by the SRC to ensure subject safety. In addition, adaptive features including allowance of dose adjustments, maximum dose allowed, and number of dose cohorts allowed in each part of the study, were defined to allow informed decision making on emerging clinical data.

CONCLUSIONS

The compound was shown to be safe and well tolerated up to an adaptive single dose of 1200 mg, which was determined as emerging, single-dose data was available, and up to a twice-daily dose of 400 mg. The incidence of treatment emergent adverse events was comparable to placebo and most adverse events were mild in severity. This FIH study demonstrates the compound to be a safe drug candidate at the doses evaluated and has continued to the next phase in drug development.

ABOUT ALTASCIENCES

Altasciences is a forward-thinking, mid-size contract research organization offering pharmaceutical and biotechnology companies of all sizes a proven, flexible approach to preclinical and early phase clinical studies, from lead candidate selection to proof of concept. For over 25 years, Altasciences has been integrating into clients' projects to help support educated, faster, and more complete early drug development decisions. Altasciences' full-service solutions include preclinical safety testing, clinical pharmacology, bioanalysis, program management, medical writing, biostatistics, data management and more, all of which can be tailored to specific sponsor requirements.

Altasciences... helping sponsors get better drugs to the people who need them, faster.

altasciences.com | contact@altasciences.com | Tel: 514 246-4191

Follow us
LinkedIn @altasciences