

# **A Bioequivalence Study of Valsartan / Amlodipine From Valsartan and Amlodipine Tablets (Hua yuan Pharmaceutical LLC, China) and Valsartan and Amlodipine Tablets ( I ) (Novartis Pharma Schweiz AG, Switzerland)**

## **Study Details**

### **Study Description:**

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#### **Brief Summary:**

Comparative randomized, single dose, three periods, three-way crossover open-label study to determine the bioequivalence of Valsartan and Amlodipine Tablets (Hua yuan Pharmaceutical LLC, China) and Valsartan and Amlodipine Tablets ( I ) (Novartis Pharma Schweiz AG, Switzerland).

Condition or disease	Intervention/treatment	Phase
healthy	Drug: Valsartan and Amlodipine Tablets Drug: Valsartan and Amlodipine Tablets	The bioequivalence study

#### **Detailed Description:**

Primary Pharmacokinetic Parameters:  $C_{max}$ , Area under cover ( $AUC_{0 \rightarrow t}$  and  $AUC_{0 \rightarrow \infty}$ ). Secondary Pharmacokinetic Parameters:  $t_{max}$  and  $t_{1/2}$ . The method of judging bioequivalence of three-cross-section repeating experiment design: first of all, the calculation of the  $S_{WR}$  of the AUC and  $C_{max}$ , if  $S_{WR} \geq 0.294$ , the use of RSABE analysis; if  $S_{WR} < 0.294$ , the average Bioequivalence analysis method with Non-scale (bioequivalence limit is 80%~125 %).

A comprehensive final report will be issued upon the completion of the study.

### **Study Design:**

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Study Type : Interventional (Clinical Trial)

Actual Enrollment : 84 participants

Allocation: Randomized

Intervention Model: Crossover Assignment

Masking: None (Open Label)

Official Title: Comparative Open-label, Randomized, Fasting/Fed, Single Dose, Three-way Crossover Bioequivalence Study of Valsartan and Amlodipine Tablets (Hua yuan Pharmaceutical LLC, China) and Valsartan and Amlodipine Tablets ( I ) (Novartis Pharma Schweiz AG, Switzerland)

Study Start Date :

Actual Primary Completion Date :

Actual Study Completion Date :

### **Arms and Interventions:**

Arm	Intervention/treatment
Experimental: T Test Test drug(Valsartan / Amlodipine)1 tablet contains Valsartan 80mg& Amlodipine 5mg	Drug: Valsartan and Amlodipine Tablets 1 tablet contains Valsartan 80mg& Amlodipine 5mg
Active Comparator: R Reference Reference drug(Valsartan / Amlodipine)1 tablet contains Valsartan 80mg& Amlodipine 5mg	Drug: Valsartan and Amlodipine Tablets ( I ) 1 tablet contains Valsartan 80mg& Amlodipine 5mg

### **Outcome Measures:**

#### Primary Outcome Measures:

Bioequivalence based on  $C_{max}$  [ Time Frame: Up to 96 hours post dose in each treatment period]

Bioequivalence based on AUC parameters [ Time Frame: Up to 96 hours post dose in each treatment period]

#### Secondary Outcome Measures:

Number of subjects with adverse events (AE)s [ Time Frame: Up to 96 hours post dose in each treatment period]

Safety and tolerability parameters will include recording of AEs

Safety assessed by vital sign measurement [ Time Frame: Up to 96 hours post dose in each treatment period]

Vital sign measurement will include blood pressure, pulse rate, respiration rate and ear temperature

Measure of clinical laboratory test values to access safety [ Time Frame: Up to 96 hours post dose in each treatment period]

Clinical laboratory tests will include blood biochemistry, CBC, urine routine examination and ECG.

### **Eligibility Criteria:**

Ages Eligible for Study:	18 Years to 45 Years (Adult)
Sexes Eligible for Study:	All
Accepts Healthy Volunteers:	Yes

### **Criteria**

#### Inclusion Criteria:

1.Healthy male or non-pregnant non-lactating female, age 18 to 45 years, including the critical value.

2. Male weight  $\geq 50\text{kg}$ , female weight  $\geq 45\text{kg}$ , body mass index (BMI) between 19 and  $28\text{kg} / \text{m}^2$ , including the critical value.
3. Good health, no heart, liver, kidney, digestive tract, nervous system, mental disorders and metabolic disease history.
- 4 Sign informed consent prior to the test and fully understand the contents, process and possible adverse reactions, and be able to communicate well with the researcher.

### Exclusion Criteria:

1. Any clinical trials in the 90 days prior to the trial, or other clinical trials planned for the duration of the trial.
2. Underwent major surgery within 90 days of the trial or planned to undergo surgery within 3 months of the trial.
3. Blood loss or blood donation over 300mL in the 90 days before the test.
4. Esophageal reflux, stomach bleeding or peptic ulcer disease in the 180 days prior to the test, heartburn occurs more than once a week, or any surgical procedure that may affect drug absorption (E.G. cholecystectomy).
5. Persons with specific allergies (asthma, urticaria, eczema, etc.) or allergies (such as those who are allergic to two or more medications, food or pollen), or are known to be allergic to the ingredients \* or analogues of the drug.  
\* The main components of the trial preparation: valsartan, benzene sulfonic acid amlodipine, microcrystalline cellulose, crosslinked povidone, crosslinked carboxymethyl cellulose sodium, silica, magnesium stearate, hydroxypropyl methyl cellulose, iron oxide yellow, polyethylene glycol, talc, Titanium dioxide; Reference Preparation main components: valsartan, amlodipine, microcrystalline cellulose, cross-linked povidone, silica, Magnesium stearate, hydroxypropyl methyl cellulose, iron oxide yellow, polyethylene glycol, talcum powder, Titanium Dioxide.
6. Use of any medication within 28 days of the trial, including prescription, over-the-counter, and/or alternative medications (such as medicinal herbs, herbal medicines, hemostasis and blood-activating plants or health supplements), and the use of hormonal contraceptives or vaccines.
7. A history of psychotropic substance abuse.
8. Urine screening Positive.
9. The average daily smoking was over 3 in the 90 days prior to the trial, alcohol consumption, women drinking more than 7 cups per week for 28 days or more than 14 cups per week for men (1 cups of =150ml wine =360ml Beer =45ml spirits).
10. Alcohol expiratory test Positive.
11. Body temperature (ear Temperature)  $\geq 37.5^\circ\text{C}$ , breathing is obviously abnormal and the researchers believe that it is not suitable to participate in the test, sitting systolic pressure  $>140\text{mmhg}$  or  $<100\text{mmhg}$ , sitting diastolic pressure  $>90\text{mmhg}$  or  $<60\text{mmhg}$ , sitting pulse 50 times/minute or  $> 100$  Times/minute.
12. Human immunodeficiency virus antibody (HIV-Ab), hepatitis B virus surface antigen (HBsAg), hepatitis C virus antibody (HCV-Ab) or Treponema pallidum antibody (TP) Positive.
13. Special dietary requirements, No uniform diet during the trial.
14. Subjects refused to comply with the drug before 48h banned caffeine, alcohol, grapefruit

beverages and food (including tea, chocolate, coffee, coke, etc.).

15. Participants with a companion refused to use effective contraceptive measures within 180 days of screening to the completion of the test, as detailed in Appendix 2.
16. Female subjects were tested positive for blood/urine pregnancy.
17. Persons with impaired renal function, or who have suffered from urinary system disease.
18. A History of orthostatic hypotension.
19. fainting during venipuncture, dizzy blood and venous blood collection difficult person.
20. The physical examination was obviously abnormal and the researchers found it inappropriate to participate in the trial.
21. There was a significant abnormality in the ECG test and the researchers found it inappropriate to Participate.
22. Blood biochemistry, blood routine, urine routine examination had the obvious abnormality and the researcher thought that was not suitable to participate in the experiment.
23. Subjects may not be able to complete this study or other researchers ' judgment for other reasons.

Note: the exclusion criteria in 1th, 2, 3, 4, 6, 9 in the time are from the first 1 days before the administration of the Calculation.

### **Contacts and Locations:**

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Locations

China

The 2<sup>nd</sup> Second Affiliated Hospital of WMU Phase I Clinical Trial Unit /Center Of Bioequivalence Study

Wenzhou, Zhejiang, China

### **Sponsors and Collaborators**

The 2<sup>nd</sup> Second Affiliated Hospital of WMU Phase I Clinical Trial Unit /Center Of Bioequivalence Study, China

Hua yuan Pharmaceutical LLC, China

### **Investigators**

**Study Director:** Ting Li, Master, The 2<sup>nd</sup> Second Affiliated Hospital of WMU Phase I Clinical Trial Unit /Center Of Bioequivalence Study