

# CHELSEA THERAPEUTICS INTERNATIONAL, LTD.

## FORM 8-K (Current report filing)

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Address	3530 TORINGDON WAY SUITE 200 CHARLOTTE, NC 28277
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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

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**FORM 8-K**

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**CURRENT REPORT**

**Pursuant to Section 13 or 15(d) of  
the Securities Exchange Act of 1934**

**Date of Report (Date of earliest event reported): September 24, 2009**

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**CHELSEA THERAPEUTICS INTERNATIONAL, LTD.**  
(Exact name of registrant as specified in its charter)

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**Delaware**  
(State or other jurisdiction  
of incorporation)

**000-51462**  
(Commission File Number)

**20-3174202**  
(IRS Employer ID Number)

**3530 Toringdon Way, Suite 200, Charlotte, North Carolina**  
(Address of principal executive offices)

**28277**  
(Zip Code)

**Registrant's telephone number, including area code (704) 341-1516**

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Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
  - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
  - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
  - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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**Item 7.01. Regulation FD Disclosure.**

On September 24, 2009, we issued a press release to report preliminary Phase III data of Droxidopa for the treatment of symptomatic neurogenic orthostatic hypotension. A copy of our press release is attached hereto as Exhibit 99.1 and is incorporated herein by reference.

The information in this Form 8-K (including Exhibit 99.1) shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934 (the “Exchange Act”) or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act, except as expressly set forth by specific reference in such a filing.

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**Item 9.01. Financial Statements and Exhibits.**

(d) Exhibits

<u>Exhibit No.</u>	<u>Description of Document</u>
99.1	Press release dated September 24, 2009.



**Chelsea Therapeutics Reports Preliminary Phase III Data of Droxidopa for  
Treatment of Symptomatic Neurogenic Orthostatic Hypotension**

- Study 302 Did Not Meet Statistical Significance on Primary Endpoint
- Key Secondary Endpoints Strongly Support Symptomatic Benefit
- Design of Second Study May Offer Significant Advantages
- Company Conducting Additional Data Analyses

CHARLOTTE, N.C., Sept. 24, 2009 — Chelsea Therapeutics International, Ltd. (Nasdaq:CHTP) announced top-line results from Study 302, the first of two Phase III trials of Droxidopa for the treatment of symptomatic neurogenic orthostatic hypotension (NOH). While Study 302 demonstrated that Droxidopa showed a strong symptomatic benefit during the open-label dose titration and run-in phase of the trial, a preliminary review of the data indicates it did not demonstrate a statistically significant improvement relative to placebo, as measured by the mean score of Item 1 (dizziness or light-headedness) of the Orthostatic Hypotension Symptom Assessment (OHSA) during the double-blind phase of trial, the study's primary endpoint. Droxidopa was safe and well tolerated, with no significant related adverse events reported.

“While the outcome on Item 1 of the OHSA scale did not meet the company's expectations, our preliminary look at each of the secondary symptomatic outcome measures was encouraging and supportive of the therapeutic benefit of Droxidopa in neurogenic orthostatic hypotension,” commented Dr. Simon Pedder, Chelsea's President and CEO. “Further, we anticipate a more comprehensive review of the data will help determine the relative impact of a higher than anticipated placebo response and what, if any, additional factors may have contributed to these unexpected results. Key features to the design of this study included an initial 7-day open-label drug treatment period following dose titration and prior to a 14-day randomized withdrawal treatment period. While we intended to stabilize patients immediately prior to withdrawal, the observed decline in BP during this period appears to have had a negative effect on the study's ability to discern treatment effect. In addition, the benefits of Droxidopa, as measured by both BP and item 1 of the OHSA scale, appeared to persist to some extent despite absence of therapy, raising potential questions regarding the suitability of this type of trial design for an NOH study. We remain hopeful that the results of Study 301, which is a standard induction design study in which patients are washed out between titration and the blinded study, may provide a better opportunity to clearly demonstrate the efficacy of Droxidopa in this indication.”

Study 302 was an enriched, double-blind, placebo controlled withdrawal-design study in which all patients underwent an initial open-label dose titration. Patients demonstrating both a symptomatic benefit and blood pressure improvement following titration continued on open-label Droxidopa for a 1-week run-in period prior to being randomized on a 1:1 basis to continue on active drug or be withdrawn to placebo. The 101 patients enrolled in the blinded study had a mean score on Item 1 of the OHSA scale of 2.1 at randomization. At the end of the 14-day blinded treatment period, patients in the placebo arm had an average OHSA score of 4.0, or a

mean change (increase) of 1.9 units from randomization. Patients in the Droxidopa arm of the trial had a mean score of 3.5 at the end of the two week treatment period, reflecting a mean change from randomization of 1.3 units resulting in a 0.6 unit difference (p=0.51) between arms.

#### Dose Titration 1-Week on Drug Blinded Study

	(BL)	End of Titrtn	Change		Change		Change	Change
			From BL to End of Titrtn	Rndm	from BL to Rndm	End of Study	from Rndm End of Study	from BL to End of Study
Droxidopa (n=50) Item 1 OHSA	6.6	1.5	-5.1	2.1	-4.4	3.5	1.3	-3.1
Standing SBP	87	109.1	22.6	106.3	19.4	98.8	-10	12.5
Supine SBP	130.1	144.8	15	143.3	13.2	138.7	-4.6	8.6
Placebo (n=51) Item 1 OHSA	6.3	1.5	-4.9	2.1	-4.2	4	1.9	-2.3
Standing SBP	88	112.4	25.5	101.1	12	96	-5.2	8.2
Supine SBP	133	142	8.7	138.5	5.7	132.1	-7.7	-0.9

Significantly, the company's preliminary analysis revealed that nearly every secondary symptomatic endpoint in the trial was either supportive or strongly supportive of Droxidopa's therapeutic benefit, including standing short time, standing long-time — and importantly the composite orthostatic hypotension activities of daily living composite score all of which were statistically significantly in favor of droxidopa. Clinical and patient global assessments of severe orthostatic hypotension at end of study were also strongly in favor of Droxidopa.

#### Preliminary Safety Results

As anticipated, Droxidopa proved to be safe and well tolerated at all dose levels, with no significant adverse events or treatment related withdrawals in the Droxidopa arm.

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The most common adverse events noted in the clinical trial were: supine hypertension at 12% for Droxidopa and 6% for placebo; falls at 2% for Droxidopa and 12% for placebo; and headache at 2% for Droxidopa and 8% for placebo.

“There is a long history of successfully treating neurogenic orthostatic hypotension with Droxidopa — in the clinic, in the Japanese market, and here in the US through a long-standing compassionate use program,” says Dr. Horacio Kaufmann, Professor of Neurology and Medicine at NYU School of Medicine, and investigator for this trial. “Having studied Droxidopa extensively, I firmly believe that this agent has a significant and clinically meaningful therapeutic benefit. I am looking forward to continuing to work with Chelsea to confirm these findings and bring Droxidopa to the US market. I have no doubts that patients suffering from symptomatic NOH in the US should have Droxidopa available.”

#### About the Trial and Droxidopa Registration Program

The Droxidopa Phase III registration program in NOH includes two double-blind, placebo-controlled studies: Study 301 and Study 302. Both studies compare Droxidopa to placebo for the treatment of symptomatic NOH and are designed to demonstrate a mean improvement over placebo of 1.6 units on the 11 point Orthostatic Hypotension Symptom Assessment (OHSA) scale.

Study 301 was reviewed by the U.S. Food and Drug Administration (FDA) and awarded a Special Protocol Assessment (SPA) in February 2008. An SPA provides a binding agreement that the study design, including trial size, clinical endpoints and/or data analyses is acceptable to support regulatory approval. In addition to the SPA, the FDA has awarded Chelsea Fast Track designation for its pivotal program in NOH. Fast Track designation is designed to facilitate the review of products that address serious or potentially life-threatening conditions for which there is an unmet medical need and provides the option to file a New Drug Application (NDA) on a rolling basis. This permits the FDA to review the filing as it is received, expediting the review process.

#### About Droxidopa and Symptomatic Neurogenic Orthostatic Hypotension (NOH)

Symptomatic NOH is a neurogenic disorder resulting from a deficient release of norepinephrine, the neurotransmitter used by sympathetic autonomic nerves to send signals to the blood vessels and the heart. This deficiency results in decreased blood pressure when a person assumes a standing position and is characterized by the following symptoms: dizziness, weakness, blurred vision and fatigue. Droxidopa, an orally active synthetic precursor of norepinephrine, increases the supply of norepinephrine available for delivery to its receptors to improve orthostatic blood pressure and alleviate symptoms of orthostatic hypotension.

#### About Chelsea Therapeutics

Chelsea Therapeutics is a biopharmaceutical development company that acquires and develops innovative products for the treatment of a variety of human diseases. Chelsea’s most advanced drug candidate, Droxidopa, is an orally active synthetic precursor of norepinephrine initially

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being developed for the treatment of neurogenic orthostatic hypotension. Currently approved and marketed in Japan for the treatment of symptomatic orthostatic hypotension, freezing gait in Parkinson's disease and intradialytic hypotension, Droxidopa has accumulated more than a million patient years of proven safety and efficacy data in Japan. In addition to Droxidopa, Chelsea is also developing a portfolio of metabolically inert oral antifolate molecules engineered to have potent anti-inflammatory and anti-tumor activity to treat a range of immunological disorders, including two clinical stage product candidates: CH-1504 and CH-4051. Preclinical and clinical data suggests superior safety and tolerability, as well as increased potency versus methotrexate (MTX), currently the leading antifolate treatment and standard of care for a broad range of abnormal cell proliferation diseases including rheumatoid arthritis.

This press release contains forward-looking statements regarding future events. These statements are just predictions and are subject to risks and uncertainties that could cause the actual events or results to differ materially. These risks and uncertainties risks and costs of drug development, risk of regulatory approvals, our reliance on our lead drug candidates droxidopa and CH-1504, include our need to raise operating capital, our history of losses, reliance on collaborations and licenses, intellectual property risks, competition, market acceptance for our products if any are approved for marketing, reliance on key personnel including specifically Dr. Pedder.

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