

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

DIVISION OF

CORPORATION FINANCE

September 15, 2010

Claire L. Kruger Chief Executive Officer and Chief Operating Officer Spherix Incorporated 6430 Rockledge Drive #503 Bethesda, Maryland 20817

Re: Spherix Incorporated

Amendment No. 1 to Registration Statement on Form S-1

Filed September 3, 2010 File No. 333-167963

Dear Ms. Kruger:

We have reviewed your amendment and response letter filed on September 3, 2010. We have additional comments.

Exhibit 5.1

- 1. Please revise the opinion limitation on page two to state that your opinion covers the statutory provisions of the Delaware General Corporation Law as well as the rules and regulations underlying those provisions and applicable judicial and regulatory determinations.
- 2. We note that section 5.e of the form of warrant filed as Exhibit 10.21 states that the warrants will be governed under the jurisdiction governing the securities purchase agreement. Section 5.9 of the securities purchase agreement filed as Exhibit 10.20 states that the warrants will be governed under New York law. Please provide a legality opinion under New York law with respect to the opinion stating that the warrants will be your valid and legally binding obligations.

Please respond to this letter by amending your registration statement and providing the requested information. Where you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

Ms. Claire L. Kruger Spherix Incorporated September 15, 2010 Page 2

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

You may contact Chambre Malone, Staff Attorney at (202) 551-3262 or Dietrich King, Staff Attorney at (202) 551-3338 if you have any questions.

Sincerely,

Pamela Long Assistant Director

cc: James E. Baker, Jr. (via facsimile at (410) 230-3801)
Baxter, Baker, Sidle, Conn & Jones, P.A.
120 E. Baltimore Street, Suite 2100
Baltimore, Maryland 21202