

OvaScience, Inc.  
9 Fourth Avenue  
Waltham, Massachusetts 02451

December 3, 2018

VIA EDGAR

United States Securities and Exchange Commission  
Division of Corporation Finance  
100 F Street, N.E.  
Washington, D.C. 20549  
Attention: Jeffrey Gabor

**RE: OvaScience, Inc.  
Registration Statement on Form S-3 File No. 333-228209  
Request for Acceleration of Effectiveness**

Ladies and Gentlemen:

In accordance with Rule 461 promulgated under the Securities Act of 1933, as amended, OvaScience, Inc. (the "Company") hereby requests acceleration of the effective date of the Registration Statement on Form S-3 (File No. 333-228209), as amended (the "Registration Statement"), so that it may become effective at 9:00 a.m., Washington, D.C. time on December 6, 2018, or as soon as possible thereafter.

The Company hereby authorizes Megan N. Gates, Esq. of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. to orally modify or withdraw this request for acceleration.

The Company respectfully requests that it be notified of such effectiveness by a telephone call to Ms. Gates at (617) 348-4443 and that such effectiveness also be confirmed in writing. Any questions regarding this request may be addressed to Ms. Gates.

Very truly yours,

OVASCIENCE, INC.

/s/ Jonathan Gillis

Jonathan Gillis

Senior Vice President, Finance

cc: OvaScience, Inc.  
Christopher A. Kroeger, M.D., M.B.A., *President and Chief Executive Officer*

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.

William C. Hicks, Esq.

Megan N. Gates, Esq.

Daniel A. Bagliebter, Esq.

Cooley, LLP

Miguel J. Vega, Esq.

Nicole Brookshire, Esq.

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