UNITED STATES SECURITIES AND EXCHANGE COMMISSION June 14, 2016

ORDER GRANTING CONFIDENTIAL TREATMENT UNDER THE SECURITIES EXCHANGE ACT OF 1934

Sequenom, Inc.

File No. 0-29101 - CF#33435

Sequenom, Inc. submitted an application under Rule 24b-2 requesting an ension of a previous grant of confidential treatment for information it excludes

extension of a previous grant of confidential treatment for information it excluded from the Exhibits to a Form 10-K filed on March 9, 2011 and amended on April 25, 2011.

Based on representations by Sequenom, Inc. that this information qualifies as confidential commercial or financial information under the Freedom of Information Act, 5 U.S.C. 552(b)(4), the Division of Corporation Finance has determined not to publicly disclose it. Accordingly, excluded information from the following exhibit will not be released to the public for the time period specified:

Exhibit 10.58 through March 9, 2019

For the Commission, by the Division of Corporation Finance, pursuant to delegated authority:

Brent J. Fields Secretary