

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
October 5, 2017**

**ORDER GRANTING CONFIDENTIAL TREATMENT
UNDER THE SECURITIES ACT OF 1933**

Rhythm Pharmaceuticals, Inc.

File No. 333-220337 - CF#33032

Rhythm Pharmaceuticals, Inc. submitted an application under Rule 406 requesting confidential treatment for information it excluded from the Exhibits to a Form S-1 registration statement filed on September 5, 2017.

Based on representations by Rhythm Pharmaceuticals, 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 exhibits will not be released to the public for the time periods specified:

Exhibit 10.6	through August 23, 2020
Exhibit 10.7	through August 23, 2020
Exhibit 10.8	through August 23, 2020

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

Brent J. Fields
Secretary