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Horizon Pharma plc Announces Presentation of Data Showing Unmet Need in Rheumatoid Arthritis and the Positive Effect of RAYOS(R) (Prednisone) Delayed-Release Tablets in Reducing Joint Stiffness of RA Throughout the Day

Data Also Presented on VIMOVO(R) (Naproxen/Esomeprazole Magnesium) in Reducing Knee Osteoarthritis Pain During the 2014 ACR/ARHP Annual Meeting

BOSTON, MA -- (Marketwired) -- 11/18/14 -- Horizon Pharma plc (NASDAQ: HZNP) today announced the presentation of data from five abstracts that review unmet needs in rheumatoid arthritis ("RA"), that support the role of RAYOS® (prednisone) delayed-release tablets ("RAYOS") in reducing joint stiffness throughout the day and demonstrate the efficacy of VIMOVO® (naproxen/esomeprazole magnesium) ("VIMOVO") in reducing pain in knee osteoarthritis. The data were presented at the American College of Rheumatology (ACR) and Association of Rheumatology Health Professionals (ARHP) Annual Scientific Meeting (ACR/ARHP) in Boston, MA from November 14 through November 19.

Horizon partnered with Corrona, LLC, an independent organization established to help advance research and improve patient care, to study areas of unmet need in RA patient care. The analyses presented from three abstracts examined data from the CORRONA RA patient registry that has enrolled over 35,000 patients with RA.

- A poster titled, "Prevalence of Morning Stiffness in a U.S. Registry Population of Rheumatoid Arthritis Patients," was presented on Sunday, November 16, 2014. The analysis evaluated the prevalence of morning stiffness as reported by patients in the CORRONA RA registry, with data from patients followed from October 2001 to February 2014. The data demonstrated that morning stiffness continues to be reported by a high proportion of U.S. RA patients despite treatment with either non-biologic or biologic disease modifying anti-rheumatic drugs (DMARDs), and further that the overall prevalence of morning stiffness has remained relatively unchanged over the past 10 years. Patients reporting this symptom also were more likely to not be working. These findings highlight the importance of morning stiffness and the relative inability of traditional therapies to address this important symptom.
- "Characteristics of Rheumatoid Arthritis Patients Not Receiving Early Initiation of Disease Modifying Therapy" was presented on Tuesday, November 18, 2014. The analysis was designed to evaluate the unique population of RA patients in the CORRONA registry that did not receive any RA directed therapy. The study specifically evaluated demographic and disease characteristics to determine what, if any, factors contribute to the failure of these patients to be directly treated for their RA symptoms. Notably, among those patients that had not received any directed therapy at the time of CORRONA enrollment, approximately 50 percent did not initiate any therapy in 12 months of registry follow-up. These data demonstrate a population of RA patients potentially receiving sub-optimal treatment.
- An oral presentation titled, "Correlation of Morning Stiffness with Measures of Higher Disease Activity in a Large U.S. Registry Population of Rheumatoid Arthritis Patients," was presented on Tuesday, November 18, 2014. This analysis evaluated the degree of correlation between patient reported morning stiffness in the CORRONA RA registry and more traditional measures of RA disease activity such as function (Health Assessment Questionnaire [HAQ]), disease activity (Clinical Disease Activity Index [CDAI]) and fatigue, that are typically measured in clinical trials or in routine practice. The results demonstrated a strong and previously relatively underappreciated correlation between morning stiffness and these outcome measures. In this registry analysis, presence and persistence of morning stiffness consistently reflected higher disease activity associated with more impairment of physical function and self-reported work disability.

"In our analysis of the CORRONA database, we found a correlation between morning stiffness and impaired function, and subsequently work disability in RA patients," said Vibeke Strand, M.D., FACP, clinical professor, adjunct, division of immunology/rheumatology, Stanford University School of Medicine and ACR meeting abstract author and presenter. "As it persists from the first initiation of therapy to the last visit on therapy, it appears that physicians may not be fully addressing morning stiffness associated with RA on a regular basis during patients' visits."

RAYOS and VIMOVO Data Presented

- Data was presented which highlighted the positive effect of RAYOS in reducing symptoms of stiffness throughout the day. The abstract titled, "Response of Patient Reported Symptoms of Stiffness and Pain during the Day from Adding Low-Dose Delayed-Release (DR) Prednisone to Stable DMARD Therapy over 12 Weeks in Patients with Moderate Rheumatoid Arthritis (RA)," was presented in a poster session on Monday, November 17, 2014. This analysis of data

from the Circadian Administration of Prednisone in Rheumatoid Arthritis (CAPRA)-2 phase 3 clinical trial examined the recurrence of pain in the afternoon in RA patients while using RAYOS. The analysis measured reported changes in the reoccurrence of joint stiffness and pain during the day, collected by patient diaries to further characterize symptoms. Previously, a strong correlation between morning stiffness severity and morning pain was reported for the CAPRA-2 study. The analysis concluded that the addition of RAYOS to the treatment of RA patients on non-biologic DMARDs produced a statistically significant reduction in the reoccurrence of joint stiffness during the day, improvements in patient global assessment and physical function, as well as a decrease in analgesic use over the 12 week treatment period. Correlation was shown regardless of treatment between reoccurrence of joint stiffness and pain during the day, further supporting the strong patient relationships of symptoms of stiffness and pain reported previously in the CAPRA-1 study.

- Analysis demonstrating the effect of VIMOVO in providing pain relief in patients with osteoarthritis of the knee was presented on Sunday, November 16, 2014, at the ACR/ARHP meeting. The data presented in an abstract titled, "Onset, Magnitude, and Durability of Pain Relief in Patients with Knee OA Receiving a Fixed-Dose Combination Tablet of Enteric-Coated (EC) Naproxen Plus Immediate-Release (IR) Esomeprazole Magnesium Versus Celecoxib and Placebo: Pooled Results from Two Randomized Controlled Trials," demonstrated that VIMOVO produced statistically significant decreases in Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) Pain on Days 2-7 and at Weeks 6 and 12; APS-POQ pain assessment were significantly improved on Days 2-7. Routine Assessment of Patient Index Data (RAPID) and WOMC Total/Pain/Stiffness scores decreased significantly at weeks 6 and 12. Responses were comparable to celecoxib. Pain relief effect sizes were moderate and median days to good-excellent response was 6 days. Total RAPID-3 to WOMAC and WOMAC to RAPID Pain were highly correlated with each other (correlation > 0.80) at 6 and 12 weeks.

The abstracts are available online through the *Arthritis & Rheumatology* meeting supplement at <http://www.acrannualmeeting.org/abstracts>.

About RAYOS®

RAYOS, known as LODOTRA® in Europe, is a proprietary delayed-release formulation of low-dose prednisone. The pharmacokinetic profile of RAYOS is different with an approximately four-hour lag time from that of immediate-release prednisone formulations. In clinical trials studying use of RAYOS in rheumatoid arthritis (RA), patients were administered RAYOS at 10 p.m. with food. The delayed-release profile of RAYOS helps to achieve therapeutic prednisone blood levels at a time point when cytokine levels start rising during the middle of the night. While the pharmacokinetic profile of RAYOS differs in terms of lag time from immediate-release prednisone, its absorption, distribution and elimination processes are comparable. For more information, please visit www.RAYOSrx.com.

RAYOS utilizes Skyepharma's proprietary Geoclock™ technology.

Outside the United States, LODOTRA is approved for the treatment of moderate to severe active RA in adults particularly when accompanied by morning stiffness in over thirty-five countries. Horizon has granted commercialization rights for LODOTRA in Europe, Asia (excluding Japan) and Latin America to its distribution partner Mundipharma International Corporation Limited. Horizon has an exclusive license from Skyepharma for RAYOS/LODOTRA.

Approved Uses for RAYOS

RAYOS, a delayed-release form of prednisone, prevents the release of substances in the body that cause inflammation. RAYOS is approved to treat a broad range of diseases including RA, polymyalgia rheumatica (PMR), psoriatic arthritis (PsA), ankylosing spondylitis (AS), asthma and chronic obstructive pulmonary disease (COPD). *For a full list of RAYOS indications, please see full prescribing information at www.RAYOSrx.com.* RAYOS is contraindicated in patients who have known hypersensitivity to prednisone or to any of the excipients. Rare instances of anaphylaxis have occurred in patients receiving corticosteroids.

Important Safety Information about RAYOS

Do not use RAYOS if you are allergic to prednisone. Long-term use of RAYOS can affect how your body responds to stress. Symptoms can include weight gain, severe fatigue, weak muscles and high blood sugar. RAYOS can weaken your immune system, making it easier for you to get an infection or worsening an infection you already have or have recently had. RAYOS can cause high blood pressure, salt and water retention and low blood potassium. There is an increased risk of developing holes in the stomach or intestines if you have certain stomach and intestinal disorders. Behavior and mood changes can occur, including intense excitement or happiness, sleeplessness, mood swings, personality changes or severe depression.

Long-term use of RAYOS can cause decreases in bone density. RAYOS can cause cataracts, eye infections and glaucoma. Do not receive a "live" vaccine while taking RAYOS. The vaccine may not work as well during this time and may not fully protect you from disease. Taking RAYOS during the first trimester of pregnancy can harm an unborn baby. Long-term use of RAYOS can slow growth and development in children.

The most common side effects with RAYOS are water retention, high blood sugar, high blood pressure, unusual behavior and mood changes, increased appetite and weight gain. *Please see full prescribing information for RAYOS at www.RAYOSrx.com.*

About VIMOVO®

VIMOVO (naproxen/esomeprazole magnesium) is a fixed-dose combination of delayed-release enteric-coated naproxen, a non-steroidal anti-inflammatory drug (NSAID), and immediate-release esomeprazole, a stomach acid-reducing proton pump inhibitor (PPI), approved for the relief of signs and symptoms of osteoarthritis, rheumatoid arthritis and ankylosing spondylitis and to decrease the risk of developing gastric ulcers in patients at risk of developing NSAID-associated gastric ulcers. VIMOVO is not recommended for use in children younger than 18 years of age. VIMOVO is not recommended for initial treatment of acute pain because the absorption of naproxen is delayed compared to absorption from other naproxen-containing products. Controlled studies do not extend beyond six months. VIMOVO should be used at the lowest dose and for the shortest amount of time as directed by your health care provider.

Approved Uses for VIMOVO

- VIMOVO is approved to relieve the signs and symptoms of osteoarthritis, rheumatoid arthritis and ankylosing spondylitis and to decrease the risk of stomach (gastric) ulcers in patients at risk of developing stomach ulcers from treatment with NSAIDs.
- VIMOVO is not recommended as a starting treatment for relief of acute pain. Controlled studies do not extend beyond 6 months.

Important Safety Information

- **Like all medications that contain nonsteroidal anti-inflammatory drugs (NSAIDs), VIMOVO may increase the chance of a heart attack or stroke that can lead to death. This chance increases**
 - **With longer use of NSAID medicines**
 - **In people who have heart disease**
- **NSAID-containing medications, such as VIMOVO, should never be used before or after a type of heart surgery called coronary artery bypass graft (CABG)**
- **As with all medications that contain NSAIDs, VIMOVO may increase the chance of stomach and intestinal problems, such as bleeding or an ulcer, which can occur without warning and may cause death**
 - **Elderly patients are at greater risk for serious gastrointestinal events**
- VIMOVO is not right for everyone, including patients who have had an asthma attack, hives or other allergic reaction with aspirin or any other NSAID medicine, patients who are allergic to any of the ingredients in VIMOVO, or women in late stages of pregnancy.
- Serious allergic reactions, including skin reactions, can occur without warning and can be life-threatening; discontinue use of VIMOVO at the first appearance of a skin rash or if you develop sudden wheezing; swelling of the lips, tongue or throat; fainting; or problems swallowing.
- VIMOVO should be used at the lowest dose and for the shortest amount of time as directed by your health care provider.
- Tell your health care provider right away if you develop signs of active bleeding from any source.
- VIMOVO can lead to onset of new hypertension or worsening of existing high blood pressure, either of which may contribute to an increased risk of a heart attack or stroke.
- Speak with your health care provider before starting VIMOVO if you
 - Have a history of ulcers or bleeding in the stomach or intestines
 - Have heart problems, high blood pressure or are taking high blood pressure medications
 - Have kidney or liver problems
- Tell your doctor about all of the medicines you take, prescription and non-prescription drugs, including clopidogrel, vitamins and herbal supplements. VIMOVO may affect how other medicines work and other medicines may affect how VIMOVO works.
- VIMOVO may increase your risk of getting severe diarrhea. Call your doctor right away if you have watery stool, stomach pain and fever that does not go away.
- Talk to your health care provider about your risk for bone fractures if you take VIMOVO for a long period of time.
- Talk to your health care provider about your risk for developing low levels of magnesium if you take VIMOVO for a long period of time.
- The most common side effects of VIMOVO include: inflammation of the lining of the stomach, indigestion, diarrhea, stomach ulcers, abdominal pain and nausea.

Please see accompanying full Prescribing Information for VIMOVO, including Boxed WARNINGS, with Medication Guide at www.VIMOVO.com.

About Horizon Pharma plc

Horizon Pharma plc is a specialty biopharmaceutical company focused on improving patients' lives by identifying, developing, acquiring and commercializing differentiated products that address unmet medical needs. The Company markets a portfolio of products in arthritis, inflammation and orphan diseases. Horizon's U.S. marketed products are ACTIMMUNE® (interferon gamma-1b), DUEXIS® (ibuprofen/famotidine), RAYOS® (prednisone) delayed-release tablets and VIMOVO® (naproxen/esomeprazole magnesium). Beginning in January 2015, the Company expects to begin marketing PENNSAID®

(diclofenac sodium topical solution) 2% w/w in the United States. Horizon's global headquarters are in Dublin, Ireland. For more information, please visit www.horizonpharma.com.

Forward-Looking Statements

This press release contains forward-looking statements, including statements about the potential benefits of the Company's products and the Company's intention to continue to conduct further research on products related to pain, inflammation and morning stiffness. These forward-looking statements are based on management's expectations and assumptions as of the date of this press release, and actual results may differ materially from those in these forward-looking statements as a result of other factors, as described in Horizon's filings with the United States Securities and Exchange Commission. Additional risks and uncertainties relating to Horizon Pharma plc and its business can be found under the caption "Risk Factors" and elsewhere in Horizon Pharma plc's Securities and Exchange Commission filings and reports, including in its Quarterly Report on Form 10-Q for the quarter ended September 30, 2014. Forward-looking statements speak only as of the date of this press release, and Horizon Pharma plc undertakes no duty or obligation to update any forward-looking statements contained in this release as a result of new information, future events or changes in its expectations.

About Corrona, LLC

Corrona, LLC was founded in 2000 by leading rheumatologists dedicated to advancing and improving the care of patients with rheumatic and other chronic diseases. Corrona's mission is to advance medical research and improve the quality of patient care.

CORRONA is an independent registry without any ownership links to the pharmaceutical industry. It is run by a group of experienced academic and clinical rheumatologists throughout the country with a wide range of experience.

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