ObsEva Announces the Completion of a Phase 1 Drug-Drug Interaction Study with OBE022

- OBE022 is ObsEva's potential first-in-class, oral and selective PGF2α receptor antagonist for the treatment of preterm labor -

Geneva, Switzerland and Boston, MA - 18 May 2017 – ObsEva SA (Nasdaq: OBSV), a Swiss biopharmaceutical company focused on the development and commercialization of novel therapeutics for serious conditions that compromise a woman's reproductive health and pregnancy, today announced the completion of a Phase 1 study which investigated the potential drug-drug interactions of OBE022 when given with magnesium sulfate (MgSO4), betamethasone, atosiban, or nifedipine, medications typically used in women with preterm labor.

"*We are very pleased with the results of this Phase 1 drug-drug interaction study which supports our initiation of a Phase 2a study commencing later this year for the treatment of preterm labor. These data support the co-administration of OBE022 with tocolytics to prevent pre-term birth, as well as standard of care to improve the neonatal outcome of the premature baby."* said Jean-Pierre Gotteland, CSO of ObsEva.

OBE022 is a first-in-class, once daily, oral and selective prostaglandin $F_{2\alpha}$ (PGF2α) receptor antagonist, which is in development for the treatment of preterm labor in weeks 24 to 34 of pregnancy. Based on pre-clinical models, OBE022 may potentially match the known tocolytic efficacy of prostaglandin inhibitors without the serious safety concerns reported with non-specific compounds such as indomethacin or other NSAIDs.

Patients with threatened preterm delivery are usually treated with MgSO4 for fetal neuroprotection, betamethasone for accelerating fetal lung maturation and a tocolytic to suppress uterine activity. More than one tocolytic may be used in combination or sequentially if the primary choice is not effective. The combination of tocolytic treatments could potentially lead to additive or synergistic effects on uterine contractions. As a result of the limited efficacy and unfavorable safety profile of many current tocolytics used off-label to treat preterm labor, we believe there remains a significant unmet need for a selective prostaglandin inhibitor. Focus on the inhibition of only PGF2α to delay preterm birth may provide a safe treatment option for both mother and child.

The drug-drug interaction Phase 1 clinical study was a randomized, open-label, single-centre Phase 1 study designed to assess the safety, tolerability and pharmacokinetics of OBE022 when co-administered with MgSO4, betamethasone, atosiban, or nifedipine to pre-menopausal healthy women. The study was performed in two parts: (A) single dose of OBE022, 12 hours MgSO4 infusion and co-administration of both, each separated by 7 days; (B) single dose of each of atosiban, nifedipine

and betamethasone followed by co-administration of each of these compounds with multiple doses of OBE022.

All studied OBE022 combination treatments were safe and well-tolerated. All but one treatment emergent adverse events (TEAE) were mild, one was moderate; there were no serious adverse events and no clinically relevant changes in safety parameters. No clinically significant abnormalities were detected in clinical laboratory results and the ECG assessments including QTcF evaluation did not reveal any clinically significant abnormalities.

Single and steady state pharmacokinetics of OBE022 and its readily formed active stable metabolite OBE002 in pre-menopausal women were comparable to those in the Phase 1 first-in-women study with post-menopausal women. There were no clinically relevant interactions between OBE022 and $MgSO_4$, betamethasone or atosiban while nifedipine exposure was increased.

Given the results announced today, ObsEva intends to advance OBE022 into a Phase 2a Proof-of-Concept clinical trial in the second half of 2017 to assess the safety and efficacy of OBE022 to delay birth in women 24 to 34 weeks pregnant who face preterm labor and potentially preterm delivery.

About Preterm Labor

Preterm labor, defined as the body commencing the birthing process prior to 37 weeks, is a serious women's pregnancy health condition characterized by uterine contractions, cervical dilation and rupture of the fetal membranes that surround and protect the fetus during pregnancy. According to a study published in the Lancet in 2012, approximately 15 million babies were born before 37 weeks of gestation in 2010, accounting for 11.1% of all live births worldwide. Over 1 million children under the age of five died in 2013 worldwide due to preterm birth complications, and many infants who survive preterm birth are at greater risk for cerebral palsy, delays in development, hearing and vision issues, and often face a lifetime of disability. The rates of preterm births are rising in almost all countries with reliable data for preterm birth, and are associated with an immense financial impact to the global healthcare system.

To date, preterm labor is a condition for which only treatments with limited efficacy or restrictive safety issues are available. In the United States, the evidence supports the use of first-line tocolytic treatment with beta-adrenergic receptor agonists, calcium channel blockers, or NSAIDs for short-term prolongation of pregnancy (up to 48 hours) to allow for the administration of antenatal steroids (e.g. betamethasone). Magnesium sulfate, used for fetal neuroprotection after tocolysis could also be used (up to 48 hours) to inhibit acute preterm labor. Approved tocolytic treatments in Europe include beta-adrenergic agonists, which carry severe maternal cardiovascular risks and intravenous infusions of atosiban (an oxytocin receptor antagonist). While NSAIDs can also be effective for controlling preterm labor, use of such drugs is limited, due to the threat of serious and sometimes life-threatening side effects to the fetus. Such side effects may include kidney function impairment, premature constriction of the blood vessel connecting the pulmonary artery and the descending aorta in a developing fetus, and higher risk of thrombosis of the intestinal arteries (a condition called necrotizing enterocolitis).

About OBE022 and PGF2α

ObsEva is advancing OBE022, a potential first-in-class, once daily, oral and selective PGF2α receptor antagonist designed to control preterm labor by reducing inflammation, decreasing uterine contractions, and preventing cervical changes and fetal membrane ruptures. PGF2α induces contraction of the myometrium and also upregulates enzymes causing cervix dilation and membrane rupture. In nonclinical studies, ObsEva has observed that OBE022 markedly reduces spontaneous uterine contractions in pregnant rats without causing the adverse effects seen with NSAIDs.

About ObsEva

ObsEva is a clinical-stage biopharmaceutical company focused on the clinical development and commercialization of novel therapeutics for serious conditions that compromise a woman's reproductive health and pregnancy. Through strategic in-licensing and disciplined drug development, ObsEva has established a late-stage clinical pipeline with development programs focused on treating endometriosis, uterine fibroids, preterm labor and improving ART outcomes. ObsEva is listed on The NASDAQ Global Select Market and is trading under the ticker symbol "OBSV". For more information, please visit www.ObsEva.com.

Cautionary Note Regarding Forward-Looking Statements

Any statements contained in this press release that do not describe historical facts may constitute forward-looking statements as that term is defined in the Private Securities Litigation Reform Act of 1995. These statements may be identified by words such as "believe", “intend”, "expect", "may", "plan," "potential," "will," and similar expressions, and are based on ObsEva’s current beliefs and expectations. These forward-looking statements include expectations regarding the pharmacology study of OBE022, the potential benefits of OBE022 and the potential clinical development plan for OBE022, including the timing and scope of future clinical trials as well as the timing and outcome of future interactions with the appropriate regulatory authorities. These statements involve risks and uncertainties that could cause actual results to differ materially from those reflected in such statements. Risks and uncertainties that may cause actual results to differ materially include uncertainties inherent in the conduct of clinical trials, ObsEva’s reliance on third parties over which it may not always have full control, and other risks and uncertainties that are described in the Risk Factors section of ObsEva’s Annual Report on Form 20-F for the year ended December 31, 2016, and other filings ObsEva makes with the SEC from time to time. These documents are available on the Investors page of ObsEva’s website at http://www.obseva.com. Any forward-looking statements speak only as of the date of this press release and are based on information available to ObsEva as of the date of this release, and ObsEva assumes no obligation to, and does not intend to, update any forward-looking statements, whether as a result of new information, future events or otherwise.

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