Zydus and China Medical System Holdings enter into a License Agreement for Desidustat in Greater China

- *Desidustat, currently undergoing Phase III clinical development*[#] is a novel oral HIF-PH inhibitor for treating Anemia in Chronic Kidney Disease Patients*
- *Agreement provides Zydus access to markets in Greater China, where more than 120 million patients are estimated to be living with Chronic Kidney Disease (CKD)*

Ahmedabad, India, 20 January 2020

Zydus, a leading discovery based global pharmaceutical company today announced that it has entered into a licensing agreement with China Medical System Holdings Limited (CMS) for the development and commercialization of Desidustat, a novel oral HIF-PH inhibitor for the treatment of anemia in patients with Chronic Kidney Disease (CKD) not-on-dialysis and for the treatment of Anemia CKD patients on dialysis in Greater China (Mainland China, Hong Kong Special Administrative Region, Macao Special Administrative Region and Taiwan).

It has been reported that more than 120 million people are estimated to be living with CKD in China[1] *(Source: Zhang L, Wang F, Wang L et al. Prevalence of chronic kidney disease in China: a cross-sectional survey.* Lancet *2012; 379: 815–822).* CKD is a serious medical condition which is an unmet healthcare need involving gradual loss of functioning of kidneys eventually leading to kidney failure. If kidneys are healthy they will naturally secrete beneficial levels of a hormone called erythropoietin (EPO), which encourages red blood cell production that carry oxygen to the muscles and brain. If the kidneys are impaired they will produce reduced levels or tire of EPO production completely, leading to fatigue and anemia.

Anemia is one of the frequent complications of CKD. A survey in China showed that the prevalence of anemia in patients at CKD stage 1 to 5 were 22.0%, 37.0%, 45.4%, 85.1%, and 98.2%, respectively[2]. The target-achieving rate was only 8.2% for anemia patients in non-dialysis CKD and 35.2% for dialysis CKD, showing unmet healthcare need[3].

Speaking on the development, Pankaj R. Patel, Chairman, Zydus Group said, “The licensing agreement with CMS will facilitate the development and commercialization of Desidustat in Greater China, and make this innovative candidate available to millions of CKD patients living with anemia.”

Under the license agreement, CMS will pay Zydus an initial upfront payment, regulatory milestones, sales milestones and royalties on net sales of the product. The commercial terms of the license agreement are confidential. CMS will be responsible for development, registration and commercialization of Desidustat in Greater China.

Zydus had initiated two Phase III trials of Desidustat. The DREAM-ND (ClinicalTrials.gov Identifier: NCT04012957) Phase III trial is being conducted in CKD patients not-on-dialysis. The DREAM-D Phase III trial (ClinicalTrials.gov Identifier: NCT04215120) is being

conducted in CKD patients on Dialysis. Desidustat had previously met its primary endpoints in the Phase II clinical studies and showed good safety profile. The Phase I trials were earlier completed in Australia.

Reference:

1 Zhang L, Wang F, Wang L et al. Prevalence of chronic kidney disease in China: a cross-sectional survey Lancet 2012; 379: 815 –822

2 Chinese expert consensus on diagnosis and treatment for renal anemia(2014 revision)， Chin J Nephrol, 2014;30:712-716.

3.Chinese expert consensus on diagnosis and treatment for renal anemia(2018 revision)， Chin J Nephrol, 2018,34(11): 860-866.

Publications on Desidustat (ZYAN1):

1. Outcomes of Desidustat Treatment in People with Anemia and Chronic Kidney Disease: A Phase 2 Study. American Journal of Nephrology, 2019. 49:470–478
2. Phase I Clinical Study of ZYAN1, A Novel Prolyl-Hydroxylase (PHD) Inhibitor to Evaluate the Safety, Tolerability, and Pharmacokinetics Following Oral Administration in Healthy Volunteers. Clin Pharmacokinet. 2018. Jan; 57(1):87-102.
3. Pharmacological Characterization of ZYAN1, a Novel Prolyl Hydroxylase Inhibitor for the Treatment of Anemia. Drug Res (Stuttg). 2016. Feb; 66(2):107-12.
4. Influence of acute and chronic kidney failure in rats on the disposition and pharmacokinetics of ZYAN1, a novel prolyl hydroxylase inhibitor, for the treatment of chronic kidney disease-induced anemia. Xenobiotica. 2018. Jan; 48(1):37-44.
5. A sensitive assay for ZYAN1 in human whole blood and urine utilizing positive LC-MS/MS electrospray ionization. Bioanalysis. 2017. May; 9(9):719-732.
6. Pharmacological inhibition of prolyl hydroxylase protects against inflammation-induced anemia via efficient erythropoiesis and hepcidin downregulation. Eur J Pharmacol. 2019. Jan 15; 843:113-120.
7. Prolyl Hydroxylase Inhibitors: A Breakthrough in the Therapy of Anemia Associated with Chronic Diseases. J Med Chem. 2018. Aug 23; 61(16):6964-6982.

* DREAM-ND Trial ClinicalTrials.gov Identifier: NCT04012957

DREAM-D Trial ClinicalTrials.gov Identifier: NCT04215120

About Zydus

Zydus Cadila is an innovative, global pharmaceutical company that discovers, develops, manufactures and markets a broad range of healthcare therapies, including small molecule drugs, biologic therapeutics and vaccines. The group employs nearly 25,000 people worldwide, including 1,400 scientists engaged in R & D, and is dedicated to creating healthier communities globally. www.zyduscadila.com

About CMS

CMS is a well-established, innovation-driven speciality pharma company with focus on sales and marketing in China. CMS is committed to offering competitive products and services to meet China's unmet medical needs with a strong and professional sales and marketing network as well as a promotion platform covering the whole Chinese market. It is listed on the Hong Kong Stock Exchange (867.HK). https://en.cms.net.cn/CmsNewWebEn/Index.aspx