



News Release

Media Contacts:

Magda Palhota
Mobile: +351 91 2799282
Email: mpalhota@its.jnj.com

Investor Relations:

Raychel Kruper
Mobile: +1 732-524-6164
Email: investor-relations@its.jnj.com

Janssen Submits Marketing Authorisation Application to the European Medicines Agency Seeking Approval of Erdafitinib for the Treatment of Patients with Locally Advanced or Metastatic Urothelial Cancer with Susceptible FGFR Alterations

Pending approval, erdafitinib, an investigational, once-daily oral pan-fibroblast growth factor receptor (FGFR) tyrosine kinase inhibitor,¹ will become the first therapy targeting FGFR alterations² in patients with metastatic urothelial carcinoma, one of Europe's most common cancers^{3,4}

The submission is based on results from the Phase 3 THOR study, which were featured in a Late-Breaking Presentation Session at the 2023 ASCO Annual Meeting in June⁵

BEERSE, Belgium, 8 September 2023 – The Janssen Pharmaceutical Companies of Johnson & Johnson announced today the submission of a Marketing Authorisation Application (MAA) to the European Medicines Agency (EMA) seeking approval of erdafitinib for the treatment of adult patients with locally advanced unresectable or metastatic urothelial carcinoma (UC), harbouring susceptible fibroblast growth factor receptor 3 (FGFR3) genetic alterations, with disease progression during or following at least one line of therapy containing a programmed death receptor-1 (PD-1) or programmed death-ligand 1 (PD-[L]1) inhibitor.

Europe has one of the highest rates of bladder cancer in the world,⁴ with more than 203,000 patients diagnosed in 2020 alone.³ UC is the most common form,⁶ and up to 20 percent of patients with metastatic UC (mUC) have FGFR alterations.¹ Patients with mUC, including FGFR-driven tumours, face a particularly poor prognosis and the need for innovative

therapies remains high.⁷ Only eight percent of people diagnosed at a late, metastatic stage will survive for five years or more.^{2,8}

“For patients with advanced UC, including FGFR-driven tumours, outcomes remain poor and treatment options are limited; therefore, there is a need for novel, targeted therapies,” said Martin Vogel, EMEA Therapeutic Area Lead Oncology, Janssen-Cilag GmbH. “We are excited by the prospect of bringing innovative, personalised approaches to market for patients as we work towards our wider goal of making this complex disease a more manageable and ultimately curable condition.”

This MAA is supported by data from Cohort 1 of the randomised, controlled, open-label, multicentre Phase 3 THOR study ([NCT03390504](#)), evaluating the efficacy and safety of erdafitinib versus chemotherapy.⁹ The study met its primary endpoint of overall survival (OS), with patients who received erdafitinib achieving a median OS of over one year at the prespecified interim analysis data cutoff.⁵ As the interim results met the predefined criteria for superiority of treatment with erdafitinib over chemotherapy, the independent data safety monitoring committee recommended that the study be stopped and that patients randomised to chemotherapy be offered the opportunity to cross-over to erdafitinib.⁵ The safety profile of erdafitinib observed in THOR was consistent with the previously reported safety profile of erdafitinib in metastatic urothelial carcinoma (mUC).^{1,5} These pivotal data from THOR were featured in a Late-Breaking Presentation Session (Abstract #LBA4619) at the 2023 American Society of Clinical Oncology (ASCO) Annual Meeting.⁵

“This submission, and Janssen’s ongoing study of erdafitinib, reinforces our commitment to deliver much-needed targeted therapies in the areas of high unmet need, including for devastating diseases like metastatic UC,” said Kiran Patel, M.D., Vice President, Clinical Development, Solid Tumors, Janssen Research & Development, LLC. “Erdafitinib has demonstrated promising results in advanced, FGFR-altered UC, making this submission a vital step towards improving outcomes for patients in the future. The OS benefit we’ve seen with erdafitinib also supports the need for biomarker testing for FGFR alterations in all patients with metastatic UC.”

In April 2019, erdafitinib received accelerated approval from the U.S. Food and Drug Administration (FDA) as a targeted therapy for adult patients with locally advanced or mUC with susceptible FGFR3 or FGFR2 genetic alterations and who have progressed during or

following at least one line of prior platinum-containing chemotherapy, including within 12 months of neoadjuvant or adjuvant platinum-containing chemotherapy.¹⁰ On August 29, Janssen submitted a supplemental New Drug Application (sNDA) to the U.S. FDA seeking full approval of erdafitinib in this indication based on Cohort 1 of the Phase 3 THOR study.

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About THOR

THOR ([NCT03390504](#)) is a Phase 3 randomised, open-label, multicenter study evaluating the efficacy and safety of erdafitinib.⁹ All patients included in the study had metastatic or unresectable UC, with selected FGFR genetic alterations, and showed disease progression during or after one or two prior lines of treatment.⁹ The study compared erdafitinib in two cohorts; erdafitinib versus standard of care chemotherapy (investigators choice of docetaxel or vinflunine) after at least one line of treatment including an anti-PD-(L)1 agent (Cohort 1); and erdafitinib compared to pembrolizumab after one prior treatment not containing an anti-PD-(L)1 agent (Cohort 2).⁹ The trial consists of a screening step, a treatment phase (from randomisation until disease progression, intolerable toxicity, withdrawal of consent or decision by investigator to discontinue treatment) and a post-treatment follow-up (from end-of-treatment to participants death, withdraws consent, lost to follow-up study completion for the respective cohort, whichever comes first).⁹ A long-term extension period is planned for after the clinical cutoff date is achieved for the final analysis of each cohort and eligible patients will continue to benefit from the study intervention.⁹ The primary endpoint of the study is overall survival (OS); progression free survival (PFS), objective response rate (ORR), duration of response (DOR), patient-reported outcomes, safety and pharmacokinetics (PK) are secondary endpoints.⁹

Results from Cohort 1 were presented at the 2023 ASCO Annual Meeting⁵ earlier this year; findings from Cohort 2 will be presented at an upcoming medical meeting.

About Erdafitinib

Erdafitinib is a once-daily, oral pan-fibroblast growth factor receptor (FGFR) tyrosine kinase inhibitor¹¹ being evaluated by Janssen Research & Development in Phase 2 and 3 clinical trials in patients with advanced urothelial cancer.^{5,12-14}

In addition to the Phase 3 THOR study, erdafitinib is being studied in the Phase 2 THOR-2/BLC2003 ([NCT04172675](#)) study examining erdafitinib versus investigator choice of intravesical chemotherapy in participants who received Bacillus Calmette-Guérin and recurred with high risk non-muscle-invasive bladder cancer;¹² the Phase 1b/2 NORSE ([NCT03473743](#)) study of erdafitinib in combination with cetrelimab in patients with locally advanced or mUC and FGFR3 or FGFR2 gene alterations;¹³ the Phase 2 RAGNAR ([NCT04083976](#)) study evaluating the safety and efficacy of erdafitinib in patients with advanced solid tumours, regardless of cancer type or tumour location (tumour-agnostic), driven by FGFR1–4 alterations;¹⁴ the Phase 1 study ([NCT05316155](#)) investigating erdafitinib in patients with non-muscle invasive or muscle invasive bladder cancer with selected FGFR alterations, given via the TARIS intravesical drug delivery system (TAR-210), which is designed to release erdafitinib in the bladder to treat localised bladder cancer, while potentially reducing systemic toxicities.¹⁵

In 2008, Janssen Pharmaceutica NV entered into an exclusive worldwide license and collaboration agreement with Astex Pharmaceuticals to develop and commercialise erdafitinib.¹⁶

About Urothelial Carcinoma

Urothelial carcinoma (UC), also known as transitional cell carcinoma, starts in the innermost lining of the bladder.¹⁷ Almost all bladder cancers – more than 90 percent – are UCs.¹⁸ Up to one in five patients (20 percent) diagnosed with mUC have a fibroblast growth factor receptor (FGFR) genetic alteration.² FGFRs are a family of receptor tyrosine kinases that can be activated by genetic alterations in a variety of tumour types, and these alterations may lead to increased tumour cell growth and survival.¹⁹ FGFRs play a key role in several biological processes including tissue repair, inflammatory response and metabolism.²⁰ Fusions or mutations in the genes that control FGFR (known as FGFR1–4 alterations) may lead to the development and progression of certain cancers by increasing tumour cell growth and survival.²¹ Patients with advanced UC, including FGFR-driven tumours, face a poor prognosis and the need for innovative therapies remains high.^{2,7} The five-year survival rate for patients with metastatic bladder cancer that has spread to distant parts of the body is currently 8 percent.⁸

About the Janssen Pharmaceutical Companies of Johnson & Johnson

At Janssen, we're creating a future where disease is a thing of the past. We're the Pharmaceutical Companies of Johnson & Johnson, working tirelessly to make that future a reality for patients everywhere by fighting sickness with science, improving access with ingenuity, and healing hopelessness with heart. We focus on areas of medicine where we can make the biggest difference: Cardiovascular, Metabolism & Retina; Immunology; Infectious Diseases & Vaccines; Neuroscience; Oncology; and Pulmonary Hypertension.

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Cautions Concerning Forward-Looking Statements

This press release contains "forward-looking statements" as defined in the Private Securities Litigation Reform Act of 1995 regarding product development and the potential benefits and treatment impact of erdafitinib and cetrelimab. The reader is cautioned not to rely on these forward-looking statements. These statements are based on current expectations of future events. If underlying assumptions prove inaccurate or known or unknown risks or uncertainties materialise, actual results could vary materially from the expectations and projections of Janssen Pharmaceutica NV, Janssen-Cilag GmbH, Janssen Research & Development, LLC, any of the other Janssen Pharmaceutical Companies and/or Johnson & Johnson. Risks and uncertainties include, but are not limited to: challenges and uncertainties inherent in product research and development, including the uncertainty of clinical success and of obtaining regulatory approvals; uncertainty of commercial success; manufacturing difficulties and delays; competition, including technological advances, new products and patents attained by competitors; challenges to patents; product efficacy or safety concerns resulting in product recalls or regulatory action; changes in behaviour and spending patterns of purchasers of health care products and services; changes to applicable laws and regulations, including global health care reforms; and trends toward health care cost containment. A further list and descriptions of these risks, uncertainties and other factors can be found in Johnson & Johnson's Annual Report on Form 10-K for the fiscal year ended January 1, 2023, including in the sections captioned "Cautionary Note Regarding Forward-Looking Statements" and "Item 1A. Risk Factors," and in Johnson & Johnson's subsequent Quarterly Reports on Form 10-Q and other filings with the Securities and Exchange Commission. Copies of these filings are available online at www.sec.gov, www.jnj.com or on request from Johnson & Johnson. None of the Janssen Pharmaceutical Companies nor Johnson & Johnson undertakes to update any forward-looking statement as a result of new information or future events or developments.

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References

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- ¹ Loriot Y, et al. Erdafitinib in Locally Advanced or Metastatic Urothelial Carcinoma. *N Engl J Med* 2019; 381(4):338-348.
- ² Montazeri K & Bellmunt J. Erdafitinib for the treatment of metastatic bladder cancer. *Expert Review of Clinical Pharmacology*. 2020;13(1):1-6.
- ³ Globocan 2020. Europe Cancer Factsheet. Available at: <https://gco.iarc.fr/today/data/factsheets/populations/908-europe-fact-sheets.pdf> Accessed: September 2023.
- ⁴ Wong MCS, et al. The global epidemiology of bladder cancer: a joinpoint regression analysis of its incidence and mortality trends and projection. *Scientific Reports*. 2018;8:1129.
- ⁵ Loriot Y, et al. Phase 3 THOR study: results of erdafitinib versus chemotherapy in patients with advanced or metastatic urothelial cancer with select fibroblast growth factor receptor alterations. Oral presentation at ASCO 2023
- ⁶ Cancer.net. Bladder cancer: introduction. Available at: [https://www.cancer.net/cancer-types/bladder-cancer/introduction#:~:text=Urothelial%20carcinoma%20\(or%20UCC\)%20accounts,that%20line%20the%20urinary%20tract](https://www.cancer.net/cancer-types/bladder-cancer/introduction#:~:text=Urothelial%20carcinoma%20(or%20UCC)%20accounts,that%20line%20the%20urinary%20tract). Accessed: September 2023.
- ⁷ Fernandez E, et al. Prognostic value and clinical significance of FGFR genomic alterations (GAs) in metastatic urothelial cancer patients. *J Clin Med*. 2022;11(15): 4483.
- ⁸ www.cancer.gov. (2023). Bladder Cancer Prognosis and Survival Rates - NCI. Available at: <https://www.cancer.gov/types/bladder/survival>. Accessed: September 2023.
- ⁹ Clinicaltrials.gov. A Study of Erdafitinib Compared With Vinflunine or Docetaxel or Pembrolizumab in Participants With Advanced Urothelial Cancer and Selected Fibroblast Growth Factor Receptor (FGFR) Gene Aberrations (THOR). Available at: [A Study of Erdafitinib Compared With Vinflunine or Docetaxel or Pembrolizumab in Participants With Advanced Urothelial Cancer and Selected Fibroblast Growth Factor Receptor \(FGFR\) Gene Aberrations - Full Text View - ClinicalTrials.gov](https://clinicaltrials.gov/ct2/show/study/NCT04172675). Accessed September 2023.
- ¹⁰ US Food and Drug Administration. FDA approves first targeted therapy for metastatic bladder cancer. Available at: [FDA approves first targeted therapy for metastatic bladder cancer | FDA](https://www.fda.gov/news-events/press-announcements/fda-approves-first-targeted-therapy-metastatic-bladder-cancer). Accessed September 2023.
- ¹¹ Tabernero J, et al. Phase I dose-escalation study of JNJ-42756493, an oral pan-fibroblast growth factor receptor inhibitor, in patients with advanced solid tumours. *J Clin Oncol*. 2015;33:3401–3408.
- ¹² Clinicaltrials.gov. A Study of Erdafitinib Versus Investigator Choice of Intravesical Chemotherapy in Participants Who Received Bacillus Calmette-Guérin (BCG) and Recurred With High Risk Non-Muscle-Invasive Bladder Cancer (NMIBC). Available at: <https://www.clinicaltrials.gov/ct2/show/NCT04172675?term=NCT04172675&draw=2&rank=1> Accessed September 2023.
- ¹³ Clinicaltrials.gov. A Study of Erdafitinib in Participants With Metastatic or Locally Advanced Urothelial Cancer. Available at: [A Study of Erdafitinib in Participants With Metastatic or Locally Advanced Urothelial Cancer - Full Text View - ClinicalTrials.gov](https://clinicaltrials.gov/ct2/show/study/NCT04172675). Accessed September 2023.
- ¹⁴ Clinicaltrials.gov. A Study of Erdafitinib in Participants With Advanced Solid Tumors and Fibroblast Growth Factor Receptor (FGFR) Gene Alterations (RAGNAR). Available at: [A Study of Erdafitinib in Participants With Advanced Solid Tumors and Fibroblast Growth Factor Receptor \(FGFR\) Gene Alterations - Full Text View - ClinicalTrials.gov](https://clinicaltrials.gov/ct2/show/study/NCT04172675). Accessed September 2023.
- ¹⁵ Clinicaltrials.gov. Study of Erdafitinib Intravesical Delivery System for Localized Bladder Cancer. Available at: <https://classic.clinicaltrials.gov/ct2/show/NCT05316155>. Accessed September 2023.
- ¹⁶ Astex Therapeutics Limited. Astex Announces New Drug Discovery Alliance with Janssen Pharmaceutica N.V. 2008. Available at: https://astx.com/wp-content/uploads/2016/11/ASTX_News_2008_6_9_General_Releases.pdf. Accessed September 2023.
- ¹⁷ Tanaka M & Sonpavde G. Diagnosis and Management of Urothelial Carcinoma of the Bladder. *Postgraduate Medicine*. 2011;123(3):43-55.
- ¹⁸ Milojevic B, et al. Urothelial carcinoma: Recurrence and risk factors. *J BUON*. 2015;20(2):391-8.
- ¹⁹ Presta M et al. Fibroblast growth factors (FGFs) in cancer: FGF traps as a new therapeutic approach. *Pharmacol Ther*. 2017;179:171-187.
- ²⁰ Xie Y, et al. FGF/FGFR signaling in health and disease. *Sig Transduct Target Ther* 5, 181 (2020). <https://doi.org/10.1038/s41392-020-00222-7>
- ²¹ Katoh M. Fibroblast growth factor receptors as treatment targets in clinical oncology. *Nat Rev Clin Oncol*. 2019;16(2):105-122.