NEWS RELEASE

NIPPON SHINYAKU CO., LTD.

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Submission of New Drug Application for NS-87 (daunorubicin and cytarabine liposome injection) in Japan

Kyoto, Japan, June 21, 2023 - Nippon Shinyaku Co., Ltd. (Nippon Shinyaku; Headquarters, Kyoto; President, Toru Nakai) announced today that it submitted a New Drug Application (NDA) to the Ministry of Health, Labour & Welfare (MHLW) for the marketing approval of NS-87 (daunorubicin and cytarabine liposome injection) for the treatment of high-risk acute myeloid leukemia (AML)* in Japan. Nippon Shinyaku acquired a license for NS-87 from Jazz Pharmaceuticals plc (Headquarters: Dublin, Ireland, Chairman and CEO: Bruce C. Cozadd) on March 30, 2017.

AML is a disease of clonal proliferation of immature myeloid cells, and results from genetic abnormalities in myeloblasts which are immature blood cells. The uncontrollable growth of leukemia cells in the bone marrow prevents the production of normal blood which results in various symptoms such as infections and bleeding.[1] Although multiple AML drugs have been launched in recent years and the outcomes for some patient groups have improved, many patients still do not have long-term survival. Novel therapeutic agents with greater efficacy are needed.[2]

NS-87 is approved in the U.S. (under the name of Vyxeos® **) by the U.S. Food and Drug Administration (FDA) for the treatment of newly-diagnosed high-risk AML in adult and pediatric patients one year and older.[3] It is also approved as Vyxeos® Liposomal by the European Medicines Agency (EMA) for the treatment of adults with newly-diagnosed high-risk AML.[4] NS-87 is an investigational treatment with a dual-drug liposomal formulation that delivers a fixed synergistic ratio of daunorubicin and cytarabine.[4]

In a Phase III study of adult patients, aged 60-75, with newly diagnosed high-risk AML, NS-87 demonstrated a statistically significant improvement in overall survival compared to the current conventional treatment group of 7+3 cytarabine and daunorubicin chemotherapy.[5] Data from a prospectively planned final five-year analysis of this study confirmed that this improved overall survival, following treatment with NS-87, was maintained.[6]

The filing is based on data from the Phase III trial conducted by Jazz Pharmaceuticals and a Phase I/II trial conducted by Nippon Shinyaku in patients with high-risk AML. NS-87 was designated as an orphan drug by MHLW for the indication of AML in May 2022.

We are working with the MHLW to bring NS-87 as a new therapeutic option to people living with high-risk AML in Japan as soon as possible.

* High-risk acute myeloid leukemia: We define as therapy-related acute myeloid leukemia (t-AML) or AML with myelodysplasia-related changes (AML-MRC)
** A brand belonging to Jazz Pharmaceuticals

About NS-87 (daunorubicin and cytarabine liposome injection)
NS-87 is a liposomal formulation of a fixed combination of cytarabine and daunorubicin at a synergistic 5:1 molar ratio. The 5:1 molar ratio has been shown to maximise synergistic antitumor activity in AML. After the drug is taken up into leukemic cells in the bone-marrow, cytarabine and daunorubicin will be released to exert their antitumor effects.

References

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4. European Medicines Agency. Vyxeos Summary of Product Characteristics. Published August 2018. Accessed May, 20232. Further information on EMA guidance can be found at: https://www.ema.europa.eu/en/documents/product-information/vyxeos-liposomal-epar-product-information_en.pdf
5. Lancet JE et al. CPX-351 (cytarabine and daunorubicin) Liposome for Injection versus Conventional Cytarabine Plus Daunorubicin in Older Patients with Newly Diagnosed Secondary Acute Myeloid Leukemia. J Clin Oncol. 2018; 36(26):2684-2692.
6. Lancet JE et al. CPX-351 versus 7+3 Cytarabine and Daunorubicin Chemotherapy in Older Adults with Newly Diagnosed High-Risk or Secondary Acute Myeloid Leukaemia: 5-Year Results of a Randomised, Open-Label, Multicentre, Phase 3 Trial. The Lancet. Vol. 2021; 8(7):e481-e491.

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