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# Chugai Receives Orphan Drug Designation for TECENTRIQ® in Small cell Lung Cancer and for Entrectinib in *NTRK* Fusion-positive Solid Tumors

TOKYO, December 6, 2018 -- Chugai Pharmaceutical Co., Ltd. (TOKYO: 4519) announced today that humanized anti-PD-L1 monoclonal antibody TECENTRIQ® Intravenous Infusion 1200 mg [generic name: atezolizumab (genetical recombination)], and ROS1/TRK inhibitor entrectinib which is under development, received orphan drug designation by the Ministry of Health, Labour and Welfare for the treatment of small cell lung cancer (SCLC) and *NTRK* fusion-positive locally advanced or metastatic solid tumors, respectively.

"SCLC is an aggressive disease with poor prognosis and high unmet medical needs. TECENTRIQ became the first immune checkpoint inhibitor whose efficacy against the disease has been confirmed in the first-line setting, thus it is expected to become a new therapeutic option to treat cancer," said Dr. Yasushi Ito, Chugai's Executive Vice President, Co-Head of Project & Lifecycle Management Unit. "Entrectinib, moreover, demonstrates efficacy against solid tumors having *NTRK* fusion gene, regardless of their site of origin. We are aiming to realize a new personalized medicine by combining it with next generation sequencing."

Seven clinical studies of TECENTRIQ are currently underway in patients with lung cancer including a global phase I/III clinical study targeting SCLC (IMpower133 study), and 12 studies are being carried out in patients with other types of cancer in Japan. For entrectinib, a global phase II study (The STARTRK-2 study) is being conducted in Japan.

<Reference>

Roche's Tecentriq in combination with chemotherapy helped people live significantly longer as an initial treatment for people with extensive-stage small cell lung cancer IMpower 133 study (Roche media release dated September 25, 2018)
https://www.roche.com/media/releases/med-cor-2018-09-25.htm

Roche's investigational personalised medicine entrectinib shrank tumours in people with NTRK fusion-positive solid tumours (Roche media release dated October 21, 2018)
https://www.roche.com/media/releases/med-cor-2018-10-21.htm

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**About small cell lung cancer**

In Japan, 114,550 people (77,617 men and 36,933 women; 2014 predicted values) are estimated to be afflicted with lung cancer each year. 73,838 people in Japan (52,430 men and 21,408 women; 2016 predicted values) die as a result of the disease. Lung cancer is the leading cause of cancer death. Lung cancer can be broadly divided into small cell lung cancer (SCLC) and non-small cell lung cancer according to the tissue type, with SCLC accounting for approximately 10 to 15% of all lung cancer cases. SCLC has a high tumor-proliferative capacity, and characteristically causes a wide range of metastases rapidly after tumor diagnosis.

**About *NTRK* fusion gene positive cancer**

*NTRK* fusion gene is an abnormal gene that can be formed by fusing the *NTRK* genes (*NTRK1, NTRK2, NTRK3* encode TRKA, TRKB, TRKC protein, respectively) and other genes (*ETV6*, *LMNA*, *TPM3*, etc.) as a result of chromosomal translocation. The TRK fusion kinase made from *NTRK* fusion gene is thought to promote cancer cell proliferation. There is very rare expression of *NTRK* fusion but in various adult and pediatric solid tumors, including appendiceal cancer, breast cancer, cholangiocarcinoma, colorectal cancer, gastrointestinal stromal tumor (GIST), infantile fibrosarcoma, lung cancer, mammary analogue secretory carcinoma of the salivary gland, melanoma, pancreatic cancer, thyroid cancer, and various sarcomas.

**About orphan drugs**

Based on Pharmaceuticals and Medical Devices Law, orphan drugs are designated by the Minister of Health, Labour and Welfare and granted priority review. The designation criteria are as follows: The number of patients who may use the drug is less than 50,000 in Japan; The drug is indicated for the treatment of serious diseases and there is a significant medical value such as no alternative appropriate drug or treatment, or high efficacy or safety expected compared to existing products; there is a theoretical rationale for using the product for the targeted disease and the development plan is reasonable.

**Sources**


- National Cancer Center Japan, Cancer Information Services “Cancer Registration and Statistics,” from: https://ganjoho.jp/reg_stat/statistics/dl/index.html. Accessed December 2018.
- Govindan R, Page N, Morgensztern D, Read W, Tierney R, Vlahiotis A, et al. Changing epidemiology of small cell lung cancer in the United States over the last 30 years: analysis of the surveillance, epidemiologic, and end results database. J Clin Oncol. 2006 Oct 1; 24: 4539-44.
- Japanese Society of Medical Oncology, editor. New Clinical Oncology. 4th ed., Nankodo
- Eilas DA. Small cell lung cancer: state-of-the-art therapy in 1996. Chest. 1997 Oct.; 112: 251S-258S.
- Cocco E, Scaltriti M, Drilon A. NTRK fusion-positive cancers and TRK inhibitor therapy. Nat Rev Clin Oncol. 2018 Oct 17. doi: 10.1038/s41571-018-0113-0. [Epub ahead of print]