

Japan Tobacco Inc. Clinical Development as of August 2, 2017

<In-house development>

Code (Generic Name)	Potential Indication/Dosage form	Mechanism		Phase	Note
JTZ-951	Anemia associated with chronic kidney disease /Oral	HIF-PH inhibitor	Increases red blood cells by stimulating production of erythropoietin, an erythropoiesis-stimulating hormone, via inhibition of HIF-PHD.	Phase2(Japan) Phase1(Overseas)	In-house
JTE-052	Autoimmune/allergic diseases /Oral, Topical *Atopic dermatitis/Topical	JAK inhibitor	Suppresses overactive immune response via inhibition of Janus kinase (JAK) related to immune signal.	Phase3(Japan)	In-house *Co-development with Torii
JTE-051	Autoimmune/allergic diseases /Oral	Interleukin-2 inducible T cell kinase inhibitor	Suppresses overactive immune response via inhibition of the signal to activate T cells related to immune response.	Phase2(Overseas)	In-house
JTT-251	Type 2 diabetes mellitus /Oral	PDHK inhibitor	Decreases blood glucose by activation of pyruvate dehydrogenase (PDH) related to carbohydrate metabolism.	Phase1(Overseas)	In-house
JTK-351	HIV infection /Oral	HIV integrase inhibitor	Suppresses blood HIV levels by inhibiting the activity of integrase, an enzyme involved in the replication of HIV.	Phase1(Japan)	In-house
JTE-451	Autoimmune/allergic diseases /Oral	ROR γ antagonist	Suppresses overactive immune response via inhibition of ROR γ related to Th 17 activation.	Phase1(Overseas)	In-house
JTT-751 (ferric citrate)	Iron-deficiency anemia/Oral	Oral iron replacement	Corrects iron-deficiency anemia by using absorbed Iron for synthesis of hemoglobin.	Phase2(Japan)	In-license (Keryx Biopharmaceuticals) Co-development with Torii Additional indication

Clinical trial phase presented above is based on the first dose.

<Licensed compounds>

Compound (JT's code)	Licensee	Mechanism		Note
trametinib	Novartis	MEK inhibitor	Inhibits cellular growth by specifically inhibiting the activity of MAPK/ERK pathway.	NSCLC with BRAF V600E mutation, trametinib+dabrafenib Japan marketing application submitted
Anti-ICOS monoclonal antibody	MedImmune	ICOS antagonist	Suppresses overactive immune response via inhibition of ICOS which regulates activation of T cells.	
JTE-052	LEO Pharma	JAK inhibitor	Suppresses overactive immune response via inhibition of Janus kinase (JAK) related to immune signal.	
JTZ-951	JW Pharmaceutical	HIF-PH inhibitor	Increases red blood cells by stimulating production of erythropoietin, an erythropoiesis-stimulating hormone, via inhibition of HIF-PHD.	

Updates since the previous announcement on May 10, 2017:

<In-house development>

- JTE-052 advanced to Phase 3 in Japan

<Licensed compounds>

- Novartis announced on June 22, 2017 that Mekinist® (trametinib) has been approved in U.S., in combination with Tafinlar® (dabrafenib), for the treatment of BRAF V600E mutant non-small cell lung cancer (NSCLC). *additional indication