

Development Pipeline Progress Status



ONO PHARMACEUTICAL CO.,LTD.

Global Development Projects

****The most advanced stage is shown**

Development Code	Target Disease	Overseas*	Japan*
ONO-4538	Renal cell carcinoma, Melanoma, Non-small cell lung cancer, etc.	Ⅲ (BMS)	Ⅲ
ONO-4641	Multiple sclerosis	Ⅲ under preparation (with Merck KGaA)	
ONO-6950	Bronchial asthma	Ⅱ	Ⅰ
ONO-4053	Allergic rhinitis	Ⅱ	—
ONO-2952	Irritable bowel syndrome (IBS)	Ⅱ	—
ONO-9054	Glaucoma, Ocular hypertension	Ⅰ	—
ONO-7746	Thrombocytopenia	Ⅰ	—
ONO-4059	B-cell lymphoma	Ⅰ	—
ONO-8055	Underactive bladder	Ⅰ	—
ONO-8539	Gastroesophageal reflux disease	Ⅰ	—
ONO-2160	Parkinson's disease	—	Ⅰ
ONO-1266	Portal hypertension	Ⅰ	—
ONO-4232	Acute heart failure	Ⅰ	—

Development pipeline list in Japan

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Development code/Product name/Product candidate name	Planned indication	Japan
ONO-4164SC (Orencia SC)	Rheumatoid arthritis	Approved
Glactiv 12.5mg Tablets (additional formulation)	Type II diabetes with severe renal dysfunction	Approved
Onoact (additional indication)	Tachyarrhythmia in low cardiac function	Passed Evaluation Committee
Glactiv (additional indication)	Type 2 diabetes (combination therapy with rapid-acting insulin secretagogues)	Filing
Opalmon (additional formulation)	Thromboangiitis obliterans, Lumbar spinal stenosis	Filing
Proemend (pediatric)	Chemotherapy-induced nausea and vomiting	III
Rivastach Patch (Additional dosing regimen)	Alzheimer's disease	III
ONO-4538	Renal cell carcinoma	III
ONO-2745	General anesthesia	II / III
ONO-7165 (Stimuvax)	Non-small cell lung cancer	II
ONO-4641	Multiple sclerosis (Global study including Japan)	II
ONO-3849	Opioid-induced constipation	II
ONO-7643	Cancer cachexia	II
ONO-4538	Melanoma	II
ONO-4538	Non-small cell lung cancer	II
ONO-5163	Secondary hyperparathyroidism	I / II
ONO-7057	Multiple myeloma	I / II
ONO-6950	Bronchial asthma	I
ONO-7056	Pancreatic cancer	I
ONO-7268 _{MX1}	Hepatic cell carcinoma	I
ONO-1162	Chronic heart failure	I
ONO-2160	Parkinson's disease	I

Development status of ONO-4538 (nivolumab)

Development Code	Target disease	Overseas	Japan
ONO-4538	Renal cell carcinoma	III (JP/US/EU, with BMS)	
ONO-4538	Melanoma	III (BMS)	II
ONO-4538	Non-small cell lung cancer	III (BMS)	II
ONO-4538	Hematologic malignancies B cell lymphoma, T cell lymphoma, Multiple myeloma, Hodgkin lymphoma, Chronic leukemia	I (BMS)	
ONO-4538	Hepatocellular carcinoma	I (BMS)	
ONO-4538	Pancreatic cancer, Gastric cancer, Small cell lung cancer, Triple negative breast cancer	I / II (BMS)	
ONO-4538	Melanoma (combination with Ipilimumab)	I (BMS)	
ONO-4538	Non-small cell lung cancer (combination with existing medication)	I (BMS)	I
ONO-4538	Renal cell carcinoma (combination with existing medication)	I (BMS)	

Efficacy of ONO-4538 (Nivolumab)

	Overall survival (Median)	Survival rate	
		1 year	2 years
Non-small cell lung cancer 129 cases	9.6 months (7.8 , 12.4)	42%	14%
Melanoma 107 cases	16.8 months (12.5 , 31.6)	62%	43%
Renal cell carcinoma 34 cases	≥22 months (13.6 , NE)	70%	50%

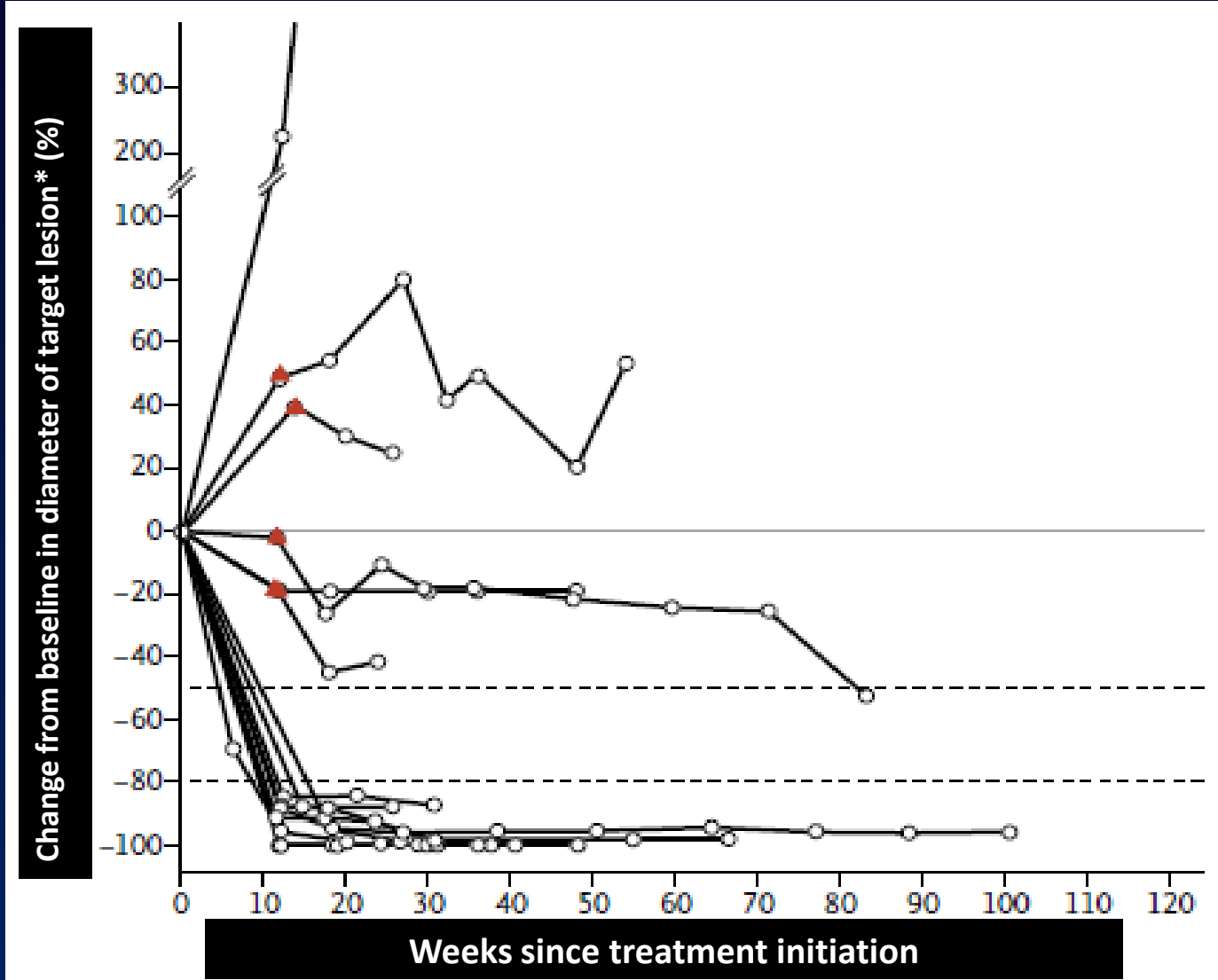
The number within () shows 95 % confidence interval.

Topalian, MD, PhD at 2013 ASCO

A Phase 1 combination study of Nivolumab and Ipilimumab in melanoma

Time-course change from baseline in diameter of target lesion (Spider plot)

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▲ : Timing of occurrence of a new lesion * : Target lesions were assessed according to mWHO criteria.

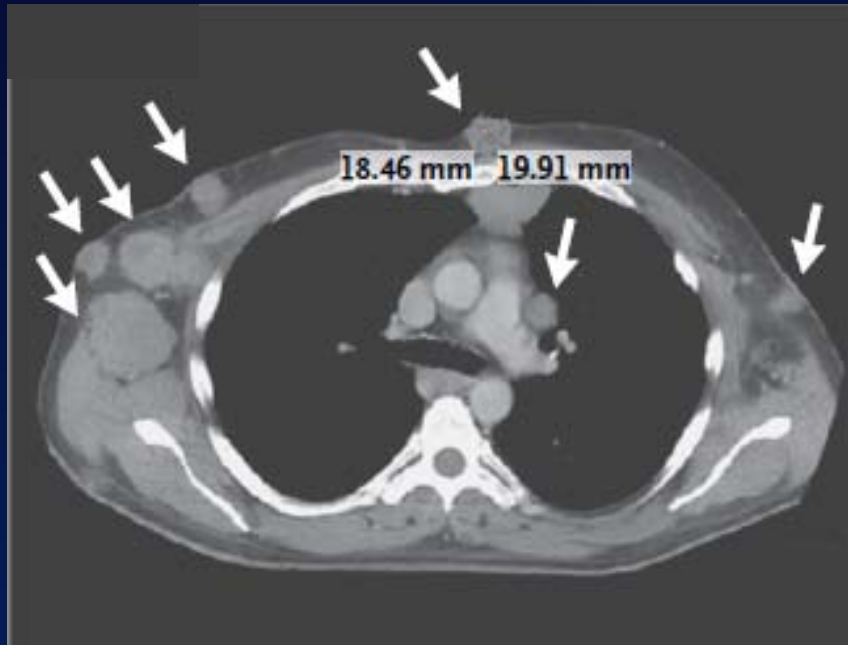
Nivolumab : 1 mg/kg, Ipilimumab : 3 mg/kg

A Phase 1 combination study of Nivolumab and Ipilimumab in melanoma

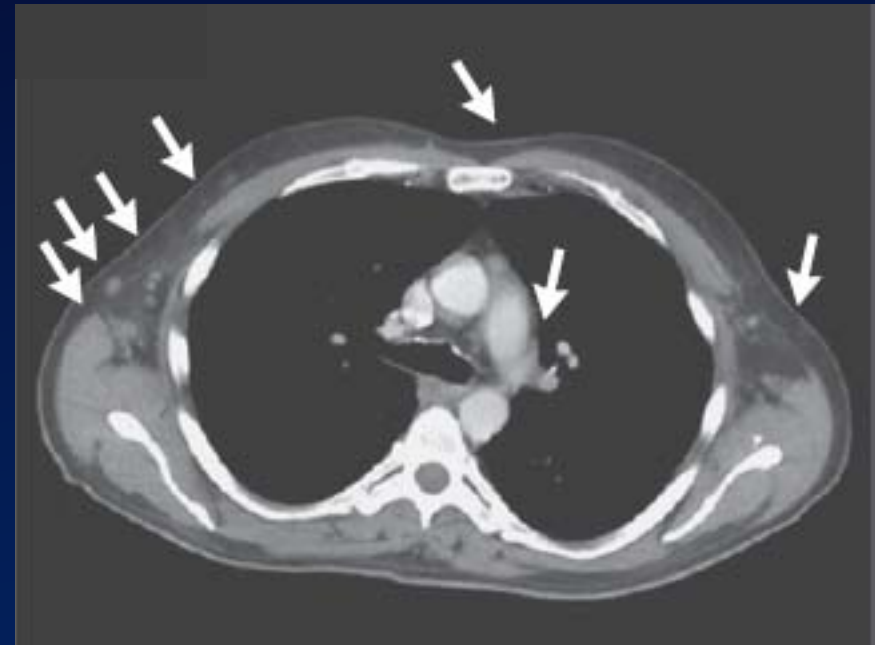
An example of CT image

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Before treatment initiation



12 weeks after treatment initiation



↑ : Metastatic lesion

* : Target lesions were assessed according to mWHO criteria

Nivolumab : 1 mg/kg, Ipilimumab : 3 mg/kg

Efficacy of ONO-4538(Nivolumab)

	Overall survival (Median)	Survival rate	
		1 year	2 years
Non-small cell lung cancer 129 cases	9.9 months (7.8 , 12.4)	42%	24%

The number within () shows 95 % confidence interval

	Response rate		
	PD-L1 Positive	PD-L1 Negative	PD-L1 Unknown
Non-small cell lung cancer 129 cases	16% 31 cases	13% 32 cases	20% 66 cases

Reported at World Conference on Lung Cancer in 2013

A Phase 2 study of ONO-4538 (Nivolumab) in melanoma in Japan (N=35)

