

# Development Pipeline Progress Status

**ONO PHARMACEUTICAL CO.,LTD.**

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# Development status of OPDIVO (nivolumab) ①

Target disease	JAPAN	US/EU	KR/TW
Melanoma (1 <sup>st</sup> )	Approved	Approved	Approved
Melanoma (Adjuvant Therapy)	Approved	Approved (US) Approved(EU)	III
Non-small cell lung cancer (2 <sup>nd</sup> ~)	Approved	Approved	Approved
Non-small cell lung cancer (1 <sup>st</sup> )	III	Filing(US) Filing(EU)	III
Renal cell carcinoma (2 <sup>nd</sup> ~)	Approved	Approved	Approved
Renal cell carcinoma (1 <sup>st</sup> )	Approved	Approved (US) Filing(EU)	Approved
Hodgkin lymphoma	Approved	Approved	Approved
Head and neck carcinoma	Approved	Approved	Approved
Urothelial cancer	III	Approved	Approved
Gastric cancer	Approved	III	Approved
Gastro-esophageal junction cancer and esophageal cancer	III	III	III
Small cell lung cancer	III	Approved (US) III (EU)	III
Hepatocellular carcinoma	III	Approved (US) III (EU)	III(KR) Approved (TW)
Esophageal cancer	III	III	III
Glioblastoma	III	III	-

# Development status of OPDIVO (nivolumab) ②

Target disease	JAPAN	US/EU	KR/TW
<b>Multiple myeloma</b>	II	III	-
<b>Malignant pleural mesothelioma</b>	Approved	III	-
<b>Ovarian cancer</b>	III	III	-
<b>Colorectal cancer</b>	II / III	Approved (US) II / III (EU)	-
<b>Central nervous system lymphoma, Primary Testicular Lymphoma</b>	II	II	-
<b>Cervix carcinoma, Uterine body cancer, Soft tissue sarcoma</b>	II	-	-
<b>Pancreatic cancer</b>	II	II	II
<b>Diffuse large B cell lymphoma (Non-Hodgkin lymphoma)</b>	-	II	-
<b>Follicular lymphoma (Non-Hodgkin lymphoma)</b>	-	II	-
<b>Prostate cancer</b>	-	II	-
<b>Virus positive/negative solid carcinoma</b>	I / II	I / II	I / II
<b>Pancreatic cancer, Triple negative breast cancer (CheckMate-032 study)</b>	-	I / II	-
<b>Biliary tract cancer</b>	I	-	-
<b>Chronic myeloid leukemia</b>	-	I	-

Red : Hematologic malignancy

Green : Change from the announcement in May 2018

# Clinical trials in combination therapy

## OPDIVO (nivolumab) & other I-O compounds ①

Combination therapy	Cancer type	Japan	US/EU	KR/TW
Nivolumab + Ipilimumab	Melanoma	Approved	Approved	Approved
	Renal cell carcinoma	Approved	Approved (US) Filing (EU)	Approved
	Non-small cell lung cancer	III	Filing (US) Filing (EU)	III
	Small cell lung cancer	III	III	III
	Head and neck cancer	III	III	III
	Gastric cancer	III	III	III
	Malignant pleural mesothelioma	III	III	-
	Esophageal cancer	III	III	III
	Urothelial cancer	III	III	III
	Colorectal cancer	-	Approved (US) II (EU)	-
	Ovarian cancer	-	I / II	-
	Virus positive/negative solid carcinoma	I / II	I / II	I / II

Green : Change from the announcement in May 2018

# Clinical trials in combination therapy

## OPDIVO (nivolumab) & other I-O compounds ②

Combination therapy with nivolumab	Cancer type	Japan	US/EU	KR/TW
ONO-4687 / Cabiralizumab (Anti-CSF-1R antibody)	Pancreatic cancer	II	II	II
	Solid tumor, Hematologic malignancy	I	I	-
ONO-7701 (IDO1 inhibitor)	Melanoma	III	III	-
	Solid tumor, Hematologic malignancy	I	I / II	-
ONO-4686 (Anti-TIGIT antibody)	Solid tumor	I / II	I / II	-
ONO-7807 (Anti-TIM-3 antibody)	Solid tumor	I / II	I / II	-
ONO-4482 / Relatlimab (Anti-LAG-3 antibody)	Melanoma	I / II	II / III	-
	Solid tumor	I	I / II	-
ONO-4483 / Lirilumab (Anti-KIR antibody)	Solid tumor	I	I / II	-
ONO-4481 / Urelumab (CD137 receptor agonist)	Solid tumor	I	I / II	-
ONO-7475 (Axl/Mer inhibitor)	Solid tumor	I	-	-

Green : Change from the announcement in May 2018

# Development pipeline in Japan (Oncology, other than OPDIVO)

Product name/Generic name /development code	Target indication	Japan
ONO-7702 (Encorafenib)	Melanoma	Filing
ONO-7703 (Binimetinib)	Melanoma	Filing
ONO-5371 (Metyrosine)	Pheochromocytoma	Filing
KYPROLIS (Change in dosage and administration)	Multiple myeloma	III
ONO-7643 (Anamorelin)	Cancer anorexia/cachexia (in all types of cancer)	III
ONO-7702 (Encorafenib)	Colorectal cancer	III
ONO-7703 (Binimetinib)	Colorectal cancer	III
ONO-7701 (BMS-986205)	Melanoma	III
ONO-4687 (Cabiralizumab)	Pancreatic cancer	II
ONO-4059 (Tirabrutinib)	Primary macroglobulinemia, Lymphoplasmacytic lymphoma	II
ONO-4686 (BMS-986207)	Solid tumor	I / II
ONO-4059 (Tirabrutinib)	Central nervous system lymphoma	I / II
ONO-4482 (Relatlimab)	Melanoma	I / II
ONO-7807 (BMS-986258)	Solid tumor	I / II
ONO-4481 (Urelumab)	Solid tumor	I
ONO-4483 (Lirilumab)	Solid tumor	I
ONO-4578	Solid tumor	I
ONO-7705	Multiple myeloma, Non-Hodgkin lymphoma	I
ONO-7475	Solid tumor	I

Green : Change from the announcement in May 2018

# Development pipeline in Japan (Non-oncology)

Product name/Generic name /development code	Target indication	Japan
Onoact (Additional indication)	Ventricular arrhythmia	Filing
Rivastach Patch (Change of dosage form)	Alzheimer's disease	Filing
Orencia IV (Additional indication)	Lupus nephritis	III
Orencia SC (Additional indication)	Untreated rheumatoid arthritis	III
Orencia SC (Additional indication)	Primary Sjögrens syndrome	III
Orencia SC (Additional indication)	Polymyositis / Dermatomyositis	III
ONO-1162 (Ivabradine)	Chronic heart failure	III
ONO-5704 (SI-613)	Osteoarthritis	III
Onoact (Pediatric)	Tachyarrhythmia in low cardiac function	II / III
Onoact (Additional indication)	Tachyarrhythmia upon sepsis	II / III
ONO-2370 (Opicapone)	Parkinson's disease	II
ONO-5704 (SI-613)	Enthesopathy	II
Opdivo (Additional indication)	Sepsis	I / II
ONO-4059 (Tirabrutinib)	Autoimmune disease	I
ONO-7269	Cerebral infarction	I

Green : Change from the announcement in May 2018

# Global development projects (Other than OPDIVO)

Development code /Generic name	Target indication /Pharmacological Action	Phase	Area
ONO-7702 (Encorafenib)	Colorectal cancer / BRAF inhibitor	III	KR
	Melanoma / BRAF inhibitor	III	KR
ONO-7703 (Binimetinib)	Colorectal cancer / MEK inhibitor	III	KR
	Melanoma / MEK inhibitor	III	KR
ONO-4059 (Tirabrutinib)	B cell lymphoma / Btk inhibitor	II	EU
	Sjögrens syndrome / Btk inhibitor	II	US/EU
ONO-4687 (Cabiralizumab)	Pancreatic cancer / Anti-CSF-1R antibody	II	KR/TW
ONO-4578	Solid tumor / PG receptor(EP4) antagonist	I / II	US/EU
ONO-4059 (Tirabrutinib)	B cell lymphoma / Btk inhibitor	I	US
ONO-7475	Acute leukemia / Axl / Mer inhibitor	I	US
ONO-5788	Acromegaly / Growth hormone secretion inhibitor	I	US

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