

# Partnering Activity Update

**May 10, 2019**

**ONO** ONO PHARMACEUTICAL CO.,LTD.

# Partnering Activity (2010~) (1)

As of April 26, 2019

Date	Product name, generic name, code number	Indication / MOA	Phase (JP / Overseas)	Partner
Sep 2010	KYPROLIS® / Carfilzomib	Multiple Myeloma / Proteasome inhibitor	L / L	Amgen, USA (Onyx, USA) (in-license)
Sep 2011	Ivabradine / ONO-1162	Chronic Heart Failure / HCN channel blocker	Filed / L	Servier, France (in-license)
Sep 2011	PARSABIV® / Etelcalcetide	Secondary Hyperparathyroidism / Calcium sensing receptor agonist	L / L	Amgen, USA (KAI, USA) (in-license)
Sep 2011	ORENCIA® / Abatacept	Rheumatoid Arthritis and Juvenile idiopathic arthritis / T cell activation inhibitor	IV: L / L SC: L / L	BMS, USA (co-development & co-marketing)
Apr 2013	Opicapone / ONO-2370	Symptom Reemergence in Parkinson's disease / COMT inhibitor	Filed / L	Bial, Portugal (in-license)
Oct 2013	DEMSER® / Metyrosine	Pheochromocytoma / Tyrosine hydroxylase inhibitor	L / L	Bausch Health, USA (Valeant, USA) (in-license)
Dec 2013	FORXIGA® / Dapagliflozin	Type 2 Diabetes and Type 1 Diabetes / SGLT-2 inhibitor	L / L	AstraZeneca, UK (co-promotion)

# Partnering Activity (2010~) (2)

As of April 26, 2019

Date	Product name, generic name, code number	Indication / MOA	Phase (JP / Overseas)	Partner
May 2017	MEKTOVI® / Binimetinib BRAFTOVI® / Encorafenib	BRAF-mutant Melanoma / MEK inhibitor BRAF inhibitor <span style="border: 1px solid blue; border-radius: 50%; padding: 2px;">Combination therapy</span>	L / L	Array, USA (in-license)
		BRAF-mutant Colorectal Cancer / MEK inhibitor BRAF inhibitor <span style="border: 1px solid blue; border-radius: 50%; padding: 2px;">Combination therapy</span>	III / III	
Aug 2017	SI-613 / ONO-5704	Osteoarthritis / Combined drug of hyaluronic acid and NSAID	III / —	Seikagaku, Japan (co-development & marketing collaboration )
		Enthesopathy / Combined drug of hyaluronic acid and NSAID	II / —	
Oct 2017	Selinexor / ONO-7705	Multiple Myeloma and Non-Hodgkin Lymphoma /Oral XPO1 (Exportin 1) inhibitor	I / Filed	Karyopharm, USA (in-license)
	Eltanexor / ONO-7706	Solid Tumors and Hematological Malignancies / Second generation oral XPO1 (Exportin 1) inhibitor	— / I	

# Partnering Activity (2010~) (3)

As of April 26, 2019

Date	Product name, generic name, code number	Indication / MOA	Phase (JP / Overseas)	Partner
Sep 2011	OPDIVO® / Nivolumab	Melanoma, NSCLC, RCC, Hodgkin Lymphoma, H&N Cancer, Gastric Cancer, etc. / Anti-PD-1 mAb	L / L	BMS, USA (out-license except JP, KR & TW)
Jul 2014	OPALMON® / Limaprost α-CD	Lumber Spinal Canal Stenosis / oral PGE1 analogue	L / L	Meiji Seika Pharma, Japan (out-license in Thailand & Indonesia)
Dec 2014	Tirabrutinib / ONO-4059	B Cell Lymphoma, Pemphigus, Sjögren syndrome, Central nervous system lymphoma, Primary macroglobulinemia / Btk inhibitor	II / II	Gilead Sciences, USA (out-license except JP, KR, TW, CN & ASEAN)
Mar 2015	OPALMON® / Limaprost α-CD	Lumber Spinal Canal Stenosis / oral PGE1 analogue	L / –	China Chemical & Pharmaceutical, Taiwan (out-license in Taiwan)
Mar 2016	Sepetaprost / ONO-9054	Glaucoma and Ocular Hypertension / FP/EP3 dual receptor agonist	II / II	Santen Pharmaceutical, Japan (out-license globally as ophthalmologic topical formulation)

# Partnering Activity (2010~) (4)

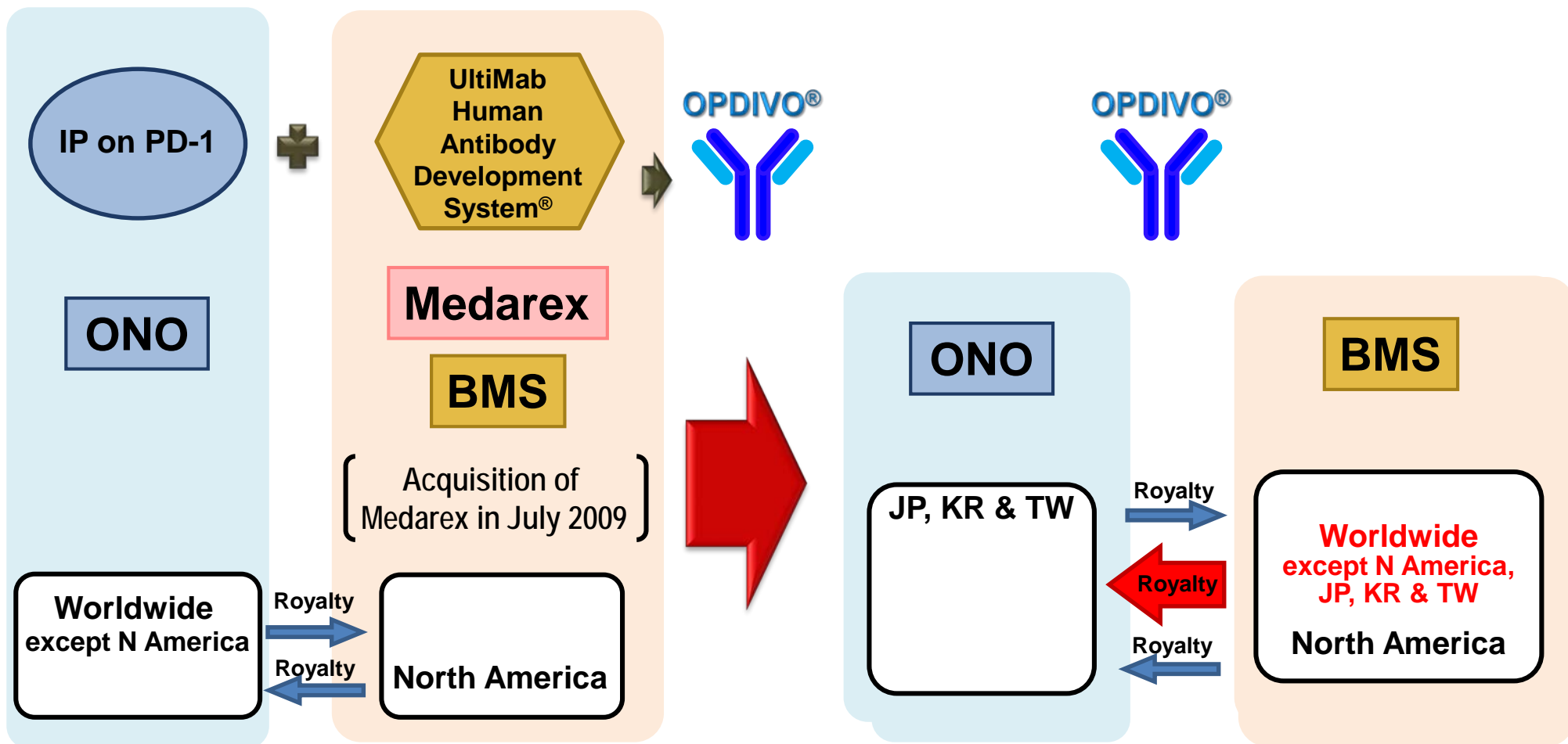
As of April 26, 2019

Date	Product name, generic name, code number	Indication / MOA	Phase (JP / Overseas)	Partner
Dec 2017	ONO-4578	Solid Tumors / PG receptor (EP4) antagonist	I / I/II	BMS, USA (out-license except JP, KR, TW, CN & ASEAN)
Jul 2014	OPDIVO® / Nivolumab	Melanoma, NSCLC, RCC, Hodgkin Lymphoma, H&N Cancer, Gastric Cancer, etc. / Anti-PD-1 mAb	L / L	BMS, USA co-development & co-promotion in JP, KR & TW
	ONO-4578	Solid Tumors / PG receptor (EP4) antagonist	I / I/II	
	YERVOY® / Ipilimumab Lirilumab / ONO-4483 Urelumab / ONO-4481 Relatlimab / ONO-4482 BMS-986207 / ONO-4686 Cabiralizumab / ONO-4687 BMS-986205 / ONO-7701 BMS-986258 / ONO-7807 BMS-986321 / ONO-7911	Melanoma, RCC / Anti-CTLA-4 mAb Solid Tumors / Anti-KIR mAb Solid Tumors / Anti-CD137 mAb Melanoma / Anti-LAG-3 mAb Solid Tumors / Anti-TIGIT mAb Pancreatic Cancer / Anti-CSF-1R mAb Melanoma, Bladder Cancer / IDO1 inhibitor Solid Tumors / Anti-TIM3 mAb Solid Tumors / PEGylated IL-2	L / L I / I/II I / I/II I/II / II/III I/II / I/II II / II III / III I/II / I/II I / III	

# Collaboration with BMS for OPDIVO®

Start collaboration  
in May 2005

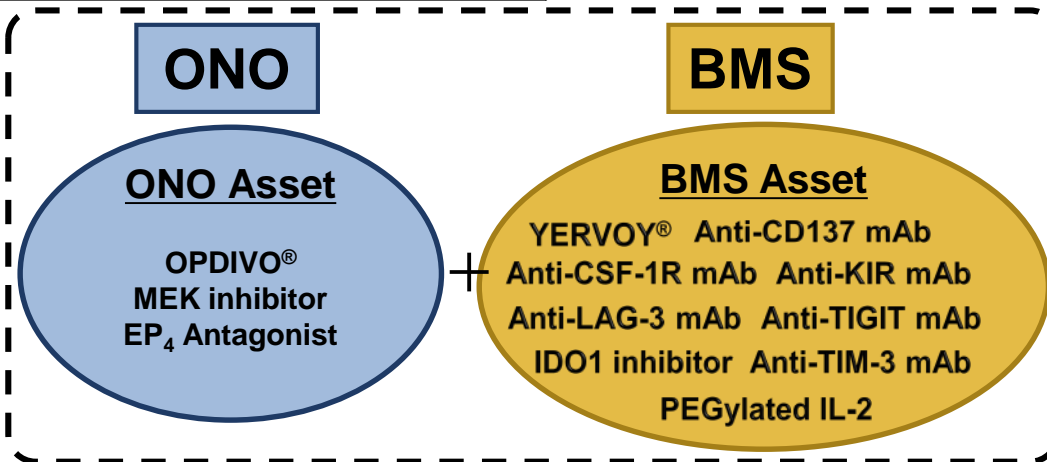
Expand collaboration  
in Sep 2011



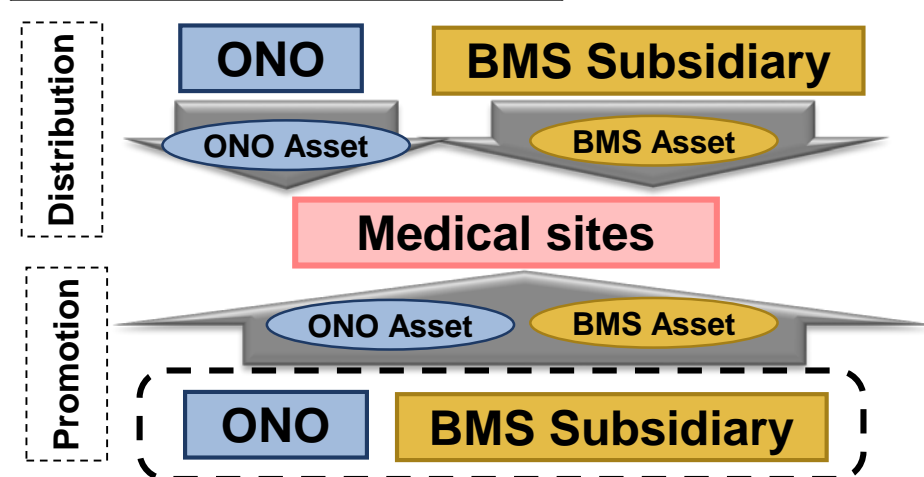
# Strategic Alliance with BMS in JP, KR & TW

- To Strengthen Immuno-oncology Portfolio
- To Accelerate Combination Therapies

## Co-development

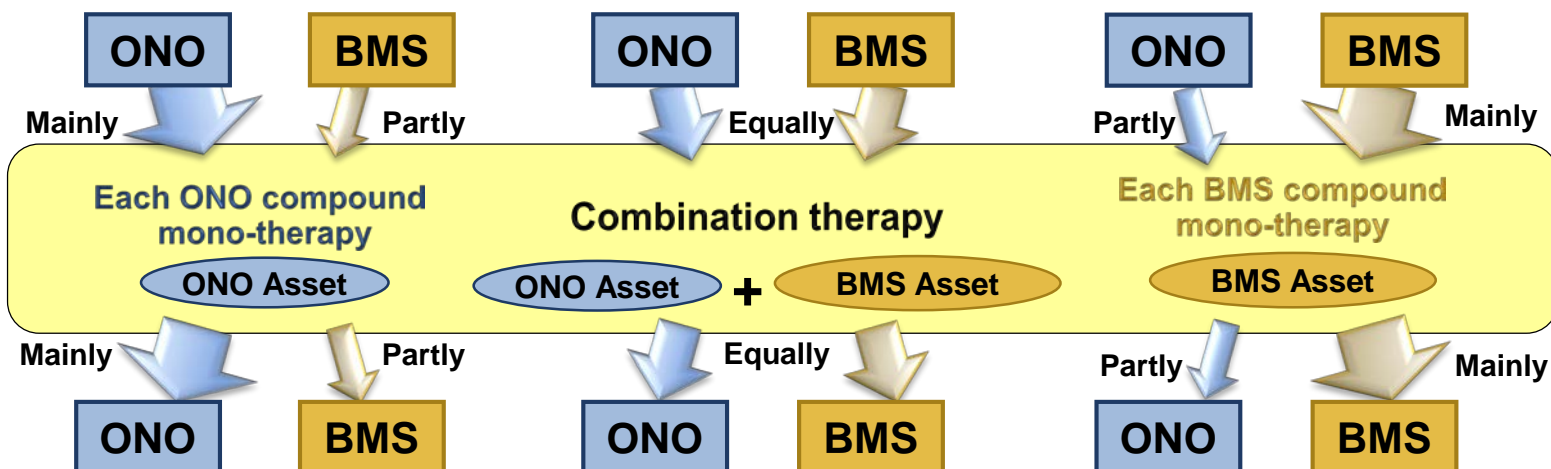


## Co-promotion



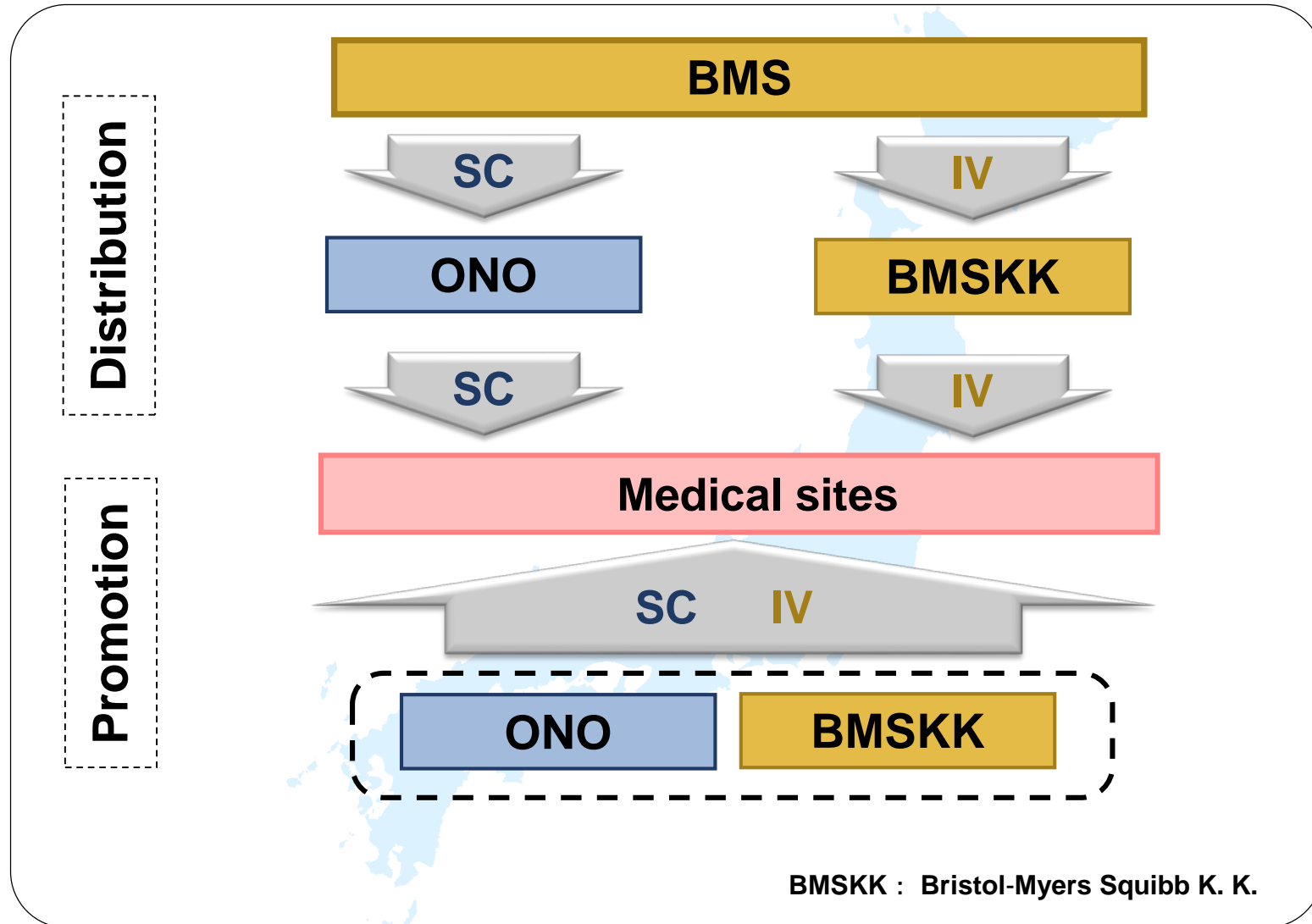
Development cost share

Profit/loss allocation



# Collaboration with BMS for ORENCIA®

- Novel Biologic Inhibiting Upstream Inflammation in RA





# Collaboration with AstraZeneca for FORXIGA®

- The First SGLT-2 Inhibitor in the World for Type-2 Diabetes
- In 2019, additional approval for Type-1 diabetes in Japan

