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#### **Top Management Presentation** Financial Results of FY2018 Q2 (April 1 – September 30, 2018)

# DAIICHI SANKYO CO., LTD

# Sunao Manabe

**President and COO** 

**October 31, 2018** 

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FY2018 Q2 Financial Results

# FY2018 Consolidated Forecast



# Revised Target for 5-Year Business Plan

#### R&D Update



#### **FY2018 Q2 Financial Results**

# **Overview of FY2018 Q2 Results**



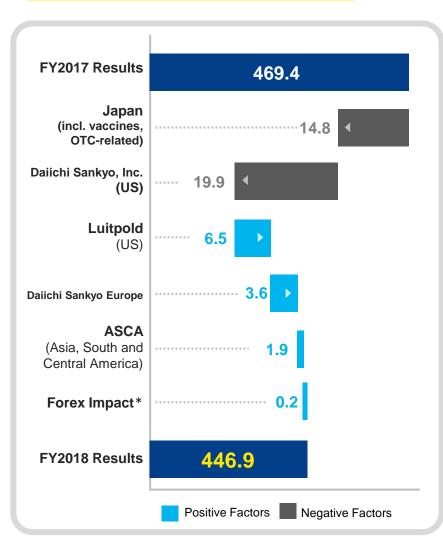
#### (Bn JPY)

	FY2017 Q2 YTD Results	FY2018 Q2 YTD Results	YoY
Revenue	469.4	446.9	-4.8% -22.5
Cost of Sales	157.1	166.6	+9.6
SG&A Expenses	140.0	128.6	-11.4
R&D Expenses	123.6	93.7	-29.9
Operating Profit	48.8	58.0	+18.9% +9.2
Profit before Tax	51.2	58.6	+7.4
Profit attributable to owners of the Company	34.3	44.0	+28.4% +9.7
Currency USD/JPY	111.07	110.27	-0.80
Rate EUR/JPY	126.29	129.84	+3.55

#### Revenue



#### Decreased by 22.5 Bn JPY (Decreased by 22.7 Bn JPY excl. forex impact) (Bn JPY)



	(
Positive Factors	Negative Factors
Japan	
Lixiana +10.5 Pralia +2.1	Olmetec -24.0 Nexium -6.1 Loxonin -3.2 *Incl. impact of price revision in Japan
Daiichi Sankyo Espha (GE) +9.2 Olmesartan AG, Rosuvastatin AG etc.	Daiichi Sankyo Healthcare -1.0 *Incl. impact of change in accounting treatment
Daiichi Sankyo, Inc.	Welchol -11.0 Effient -5.2 Olmesartan -4.4
Luitpold Injectafer +6.1 Venofer +1.9	GE injectables2.6
Daiichi Sankyo Europe	
Lixiana +9.2	Olmesartan

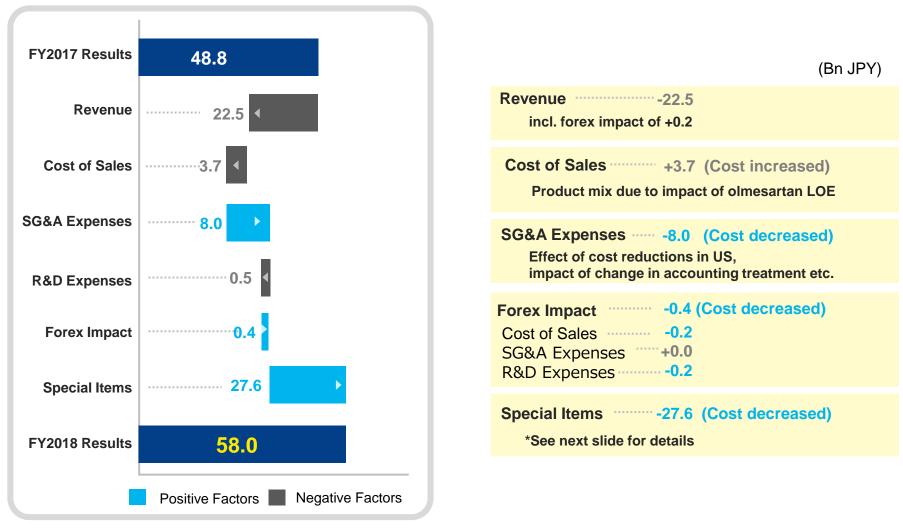
\* Forex impact USD: -0.6, EUR : +1.2, ASCA: -0.4

# **Operating Profit**



#### Increased by 9.2 Bn JPY

(Decreased by 18.9 Bn JPY excl. forex impact and special items)



## **Special Items**



(Bn JPY)

	FY2017 Q2 YTD Results		FY2018 Q2 YTD Results	ΥοΥ
Cost of Sales	Gain on sales of fixed assets	-6.1		+6.1
SG&A Expenses			Gain on sales of fixed assets -3.5	-3.5
R&D Expenses	Impairment loss (Intangible)	30.2		-30.2
Total		24.1	-3.5	-27.6

-: Cost decreased items

Booked in Q2

\*Special items :

Items having a transitory and material impact on operating profit are defined as "Special items".

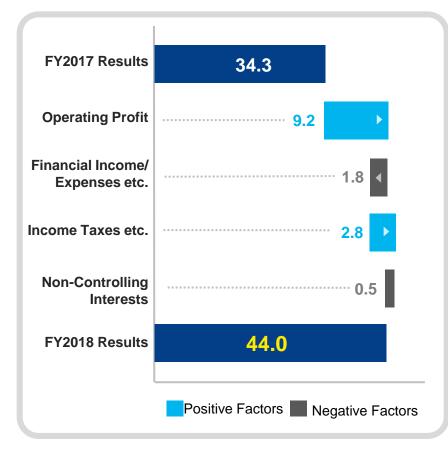
Specifically, gains and losses related to: sale of fixed assets, restructuring, impairment, litigation, etc. amounting to 1 billion JPY or more are defined as "Special items".

#### **Profit Attributable to Owners of the Company**



(Bn JPY)

#### Increased by 9.7 Bn JPY



Financial Income/ +1.8 (Cost increased) Expenses etc.

**Deterioration of forex gains/ losses** 

Income Taxes etc. -2.8 (Cost decreased)

Impact of the tax rate reduction in US etc.

	FY2017	FY2018	YoY
Profit before Tax	51.2	58.6	+7.4
Income Taxes etc.	17.4	14.6	-2.8
Tax rate	34.1%	24.9%	-9.2%

Non-Controlling +0.5 (Cost increased) Interests

#### **Revenue: Major Business Units** (incl. Forex Impact)



(Bn JPY)

	FY2017 Q2 YTD Results	FY2018 Q2 YTD Results	YoY	vs. Forecast* (%)
Japan	257.6	243.7	-13.9	47.5%
Daiichi Sankyo Healthcare	35.8	34.8	-1.0	50.4%
Daiichi Sankyo Inc.	42.0	22.0	-20.1	70.8%
Olmesartan	10.3	5.8	-4.5	64.8%
Welchol	19.7	8.7	-11.0	86.8%
Effient	8.0	2.7	-5.3	-
Savaysa	1.0	1.1	+0.1	54.3%
Movantik	2.5	2.2	-0.4	-
Luitpold	52.4	58.4	+6.1	51.7%
Venofer	14.7	16.6	+1.8	57.1%
Injectafer	16.1	22.0	+5.9	53.8%
GE injectables	19.7	17.0	-2.7	-
Daiichi Sankyo Europe	38.2	43.0	+4.8	50.6%
Olmesartan	18.0	14.4	-3.5	62.7%
Efient	3.9	3.3	-0.6	46.6%
Lixiana	11.0	20.8	+9.8	46.2%
ASCA (Asia, South and Central America)	38.6	40.1	+1.5	44.6%
Currency USD/JPY	111.07	110.27	-0.80	* Calculated based on new forecast updated
Rate EUR/JPY	126.29	129.84	+3.55	

## **Revenue: Major Products in Japan**



(Bn JPY)

		FY2017 Q2 YTD Results	FY2018 Q2 YTD Results	ΥοΥ	vs. Forecast* (%)
Nexium	ulcer treatment	44.7	38.6	-6.1	50.8%
Lixiana	anticoagulant	19.7	30.1	+10.5	50.2%
Memary	Alzheimer's disease treatment	24.5	25.2	+0.7	49.4%
Loxonin	anti-inflammatory analgesic	18.9	15.6	-3.2	50.4%
Pralia	treatment for osteoporosis/ inhibitor of the progression of bone erosion associated with rheumatoid arthritis	10.9	13.0	+2.1	48.1%
Tenelia	type 2 diabetes mellitus treatment	13.2	12.6	-0.6	46.8%
Inavir	anti-influenza treatment	1.1	0.1	-1.0	0.3%
Olmetec	antihypertensive agent	31.9	7.9	-24.0	56.1%
Ranmark	treatment for bone complications caused by bone metastases from tumors	7.6	8.1	+0.5	50.6%
Efient	antiplatelet agent	6.4	7.0	+0.6	46.5%
Rezaltas	antihypertensive agent	8.5	7.8	-0.8	55.6%
Urief	treatment for dysuria	5.6	5.2	-0.4	52.4%
Omnipaque	contrast medium	7.1	6.2	-0.9	51.8%

\* Calculated based on new forecast updated in Oct.



#### **FY2018 Consolidated Forecast**

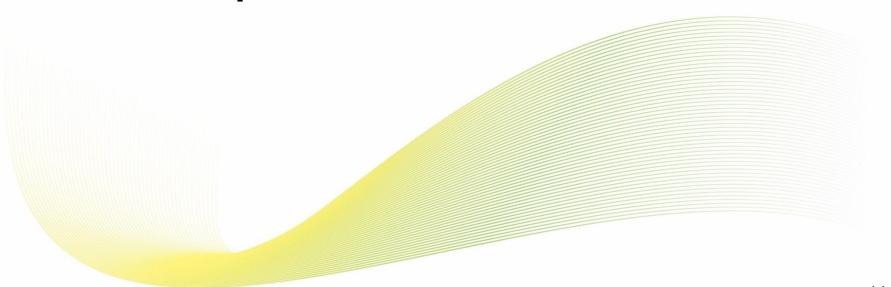
# **FY2018 Consolidated Forecast**



			(Bn JPY)	Major factors - Japan +15.0
	FY2018 Forecast (as of Apr.)	FY2018 Forecast (as of Oct.)	vs. Forecast (as of Apr.)	<ul> <li>(incl. Lixiana +6.0, gain on transfer of long-listed products)</li> <li>Daiichi Sankyo Healthcare</li> </ul>
Revenue	910.0	910.0	-	-5.0 (incl. impact of change in accounting treatment)
Cost of Sales	330.0	330.0	-	<ul> <li>Daiichi Sankyo Inc13.0 (incl. Welchol -15.0)</li> <li>Luitpold +3.0</li> </ul>
SG&A Expenses	292.0	287.0	-5.0	Major factors
R&D Expenses	210.0	215.0	+5.0	<ul> <li>Decreased by impact of change in accounting</li> </ul>
Operating Profit	78.0	78.0	-	treatment
Profit before Tax	78.0	78.0	-	Major factors - Increased by accelerated R&D
Profit attributable to owners of the Company	55.0	55.0	-	
Currency Rate USD/JPY EUR/JPY	110.00 130.00	110.13 129.92	Assumption of cu USD/JPY : 110,	urrency rate for Q3 and Q4 EUR/JPY:130

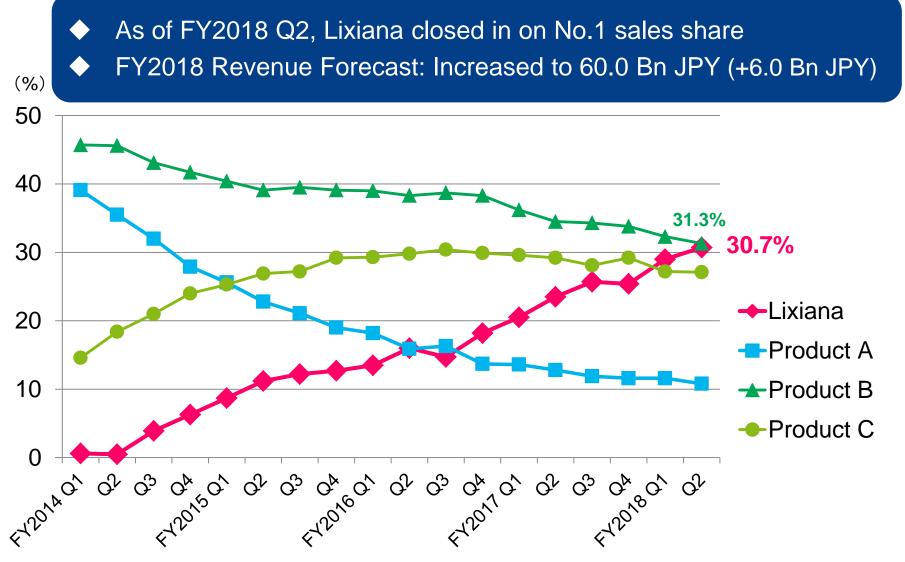


### **Business Update**



# **Lixiana: Growth in Japan**



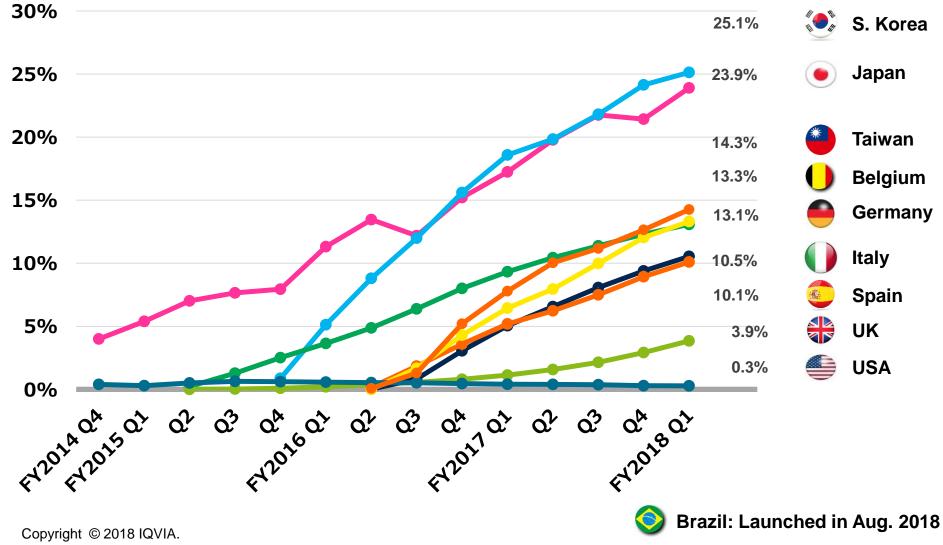


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## **Edoxaban: Growth in Each Country**



Edoxaban volume (DoT) % share of DOAC markets over time



Calculated based on MIDAS Data Reprinted with permission

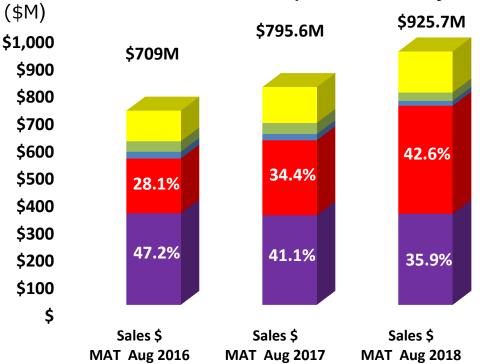
# **LPI: Growth of Injectafer**

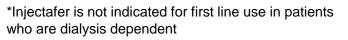




FY2018 Revenue Forecast: Increased to \$372 Mn (+\$18 Mn)

**US IV Iron Market (includes dialysis)** 





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## **Revised Target for 5-Year Business Plan**

#### **Current Progress of 5-Year Business Plan**



- **Edoxaban: Growing** in momentum beyond the initial target
- Luitpold (US): Maintaining a high level growth
- Oncology: Enriching our pipeline value including DS-8201

NDA submission & launch preparation of

Quizartinib and Pexidartinib are underway

- Pain Business (US): Difficult to achieve the initial target
- **Japan Business:** Future business environment getting severe

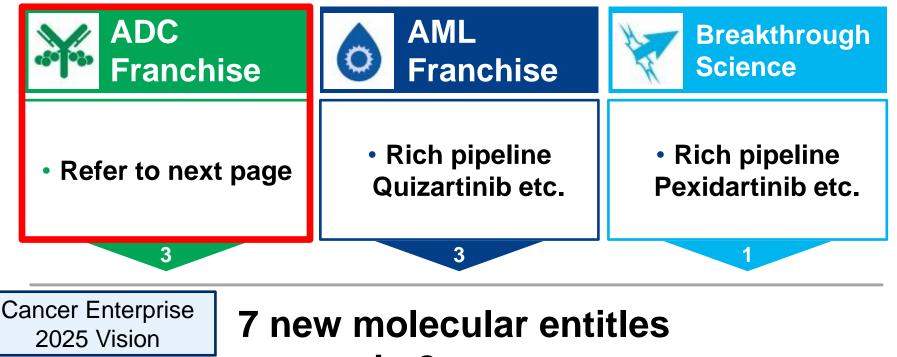


#### Difficult to achieve the FY2020 Target : OP 165.0 Bn JPY

#### **Current Progress of 5-Year Business Plan: Oncology Business**



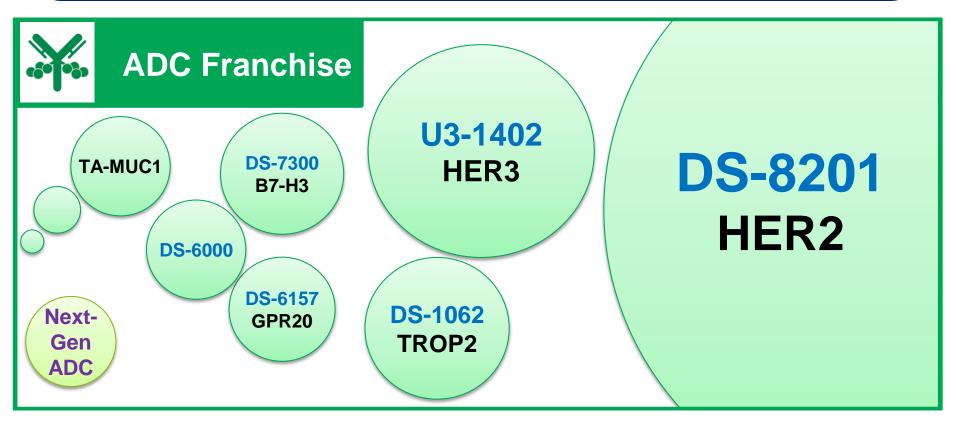
 Built 3 pillars of oncology business, ADC Franchise, AML Franchise and Breakthrough Science, and focus investments on the pillars



#### **Current Progress of 5-Year Business Plan: ADC Franchise**



Established ADC technology as a platform technology
 DS-8201: Accumulated promising clinical data
 U3-1402: Disclosed good clinical data
 Increasing expectation on other ADCs





- Identify a highly promising investment opportunity for a huge future return, as the value of ADC franchise (DS-8201, U3-1402, etc.) is increasing
- Prioritize investments to maximize the ADC franchise's potential



Rather than stick to the original profit target, increase investments in oncology, and accelerate the future growth

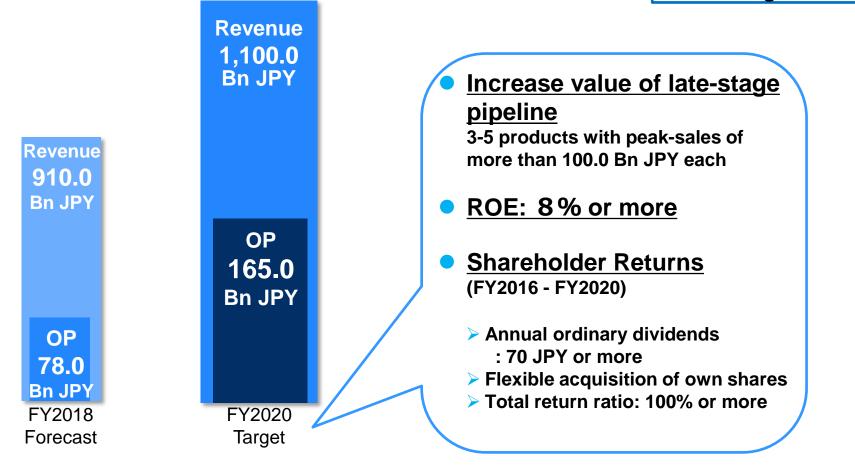
## **5-Year Business Plan (Original)**



Grow beyond FY2017 LOE of olmesartan
 Establish a foundation of sustainable growth

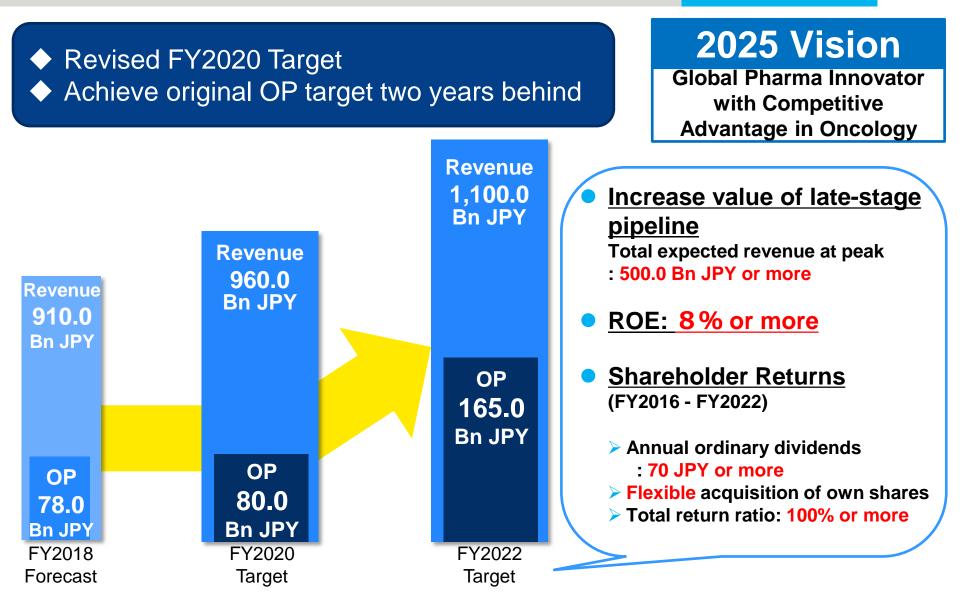
#### 2025 Vision

Global Pharma Innovator with Competitive Advantage in Oncology



## **Revised Target for 5-Year Business Plan**

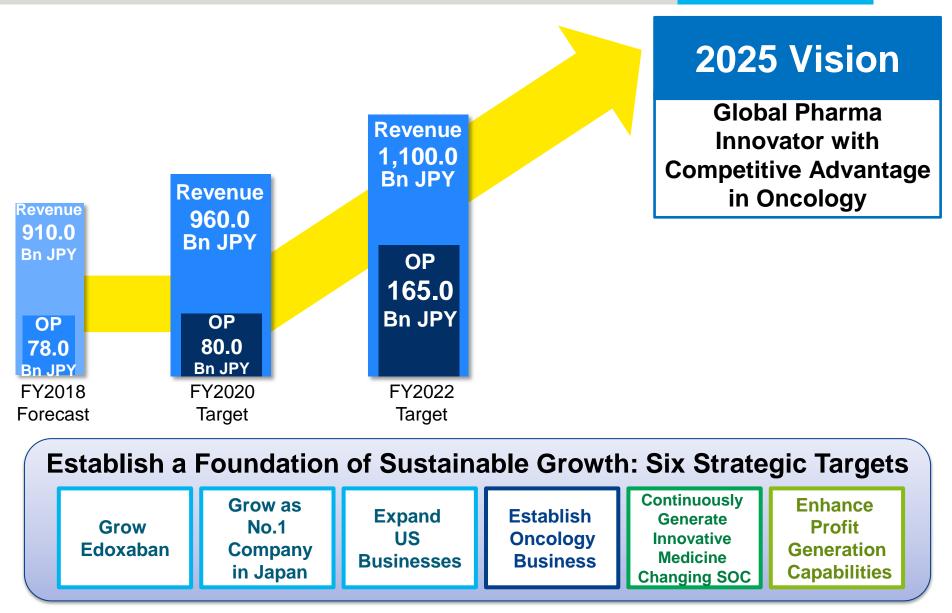




\* The targets excludes the impact of gain on sales of fixed assets, transformation business portfolio and partnering

#### **Toward 2025 Vision**

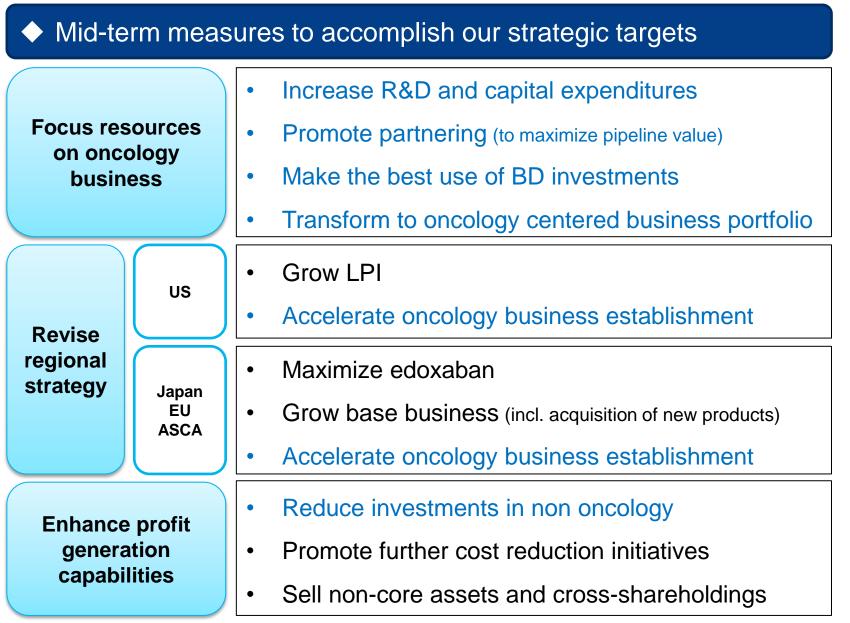




#### **Mid-term Measures**

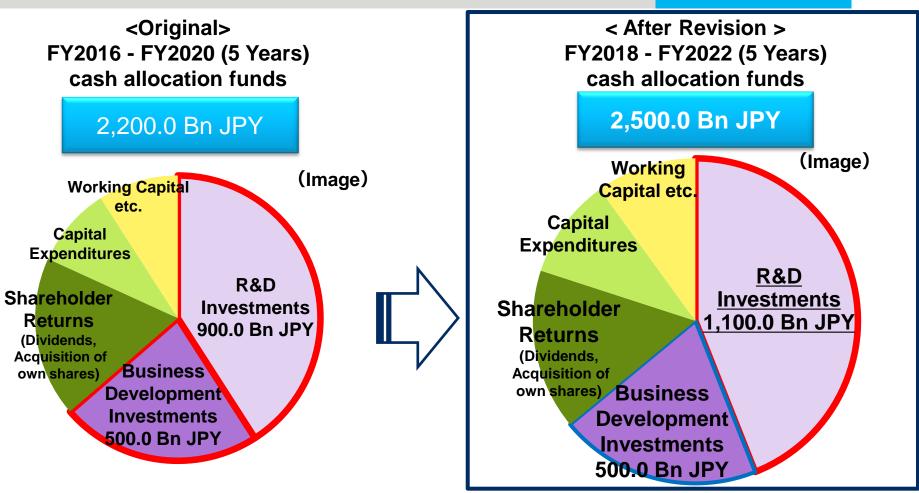
Blue: Oncology business related





## **Cash Allocation Image**





Increase R&D Investments and allocate more to oncology
 Make the best use of Business Development Investments to enhance oncology business



#### Shareholder Returns Policy: FY2016 - FY2022



Annual ordinary dividends: 70 JPY dividend in FY2016 and FY2017
 Acquisition of own shares: 50.0 Bn JPY in both FY2016 and FY2017
 Total return ratio : 100% or more (extended to FY2022)

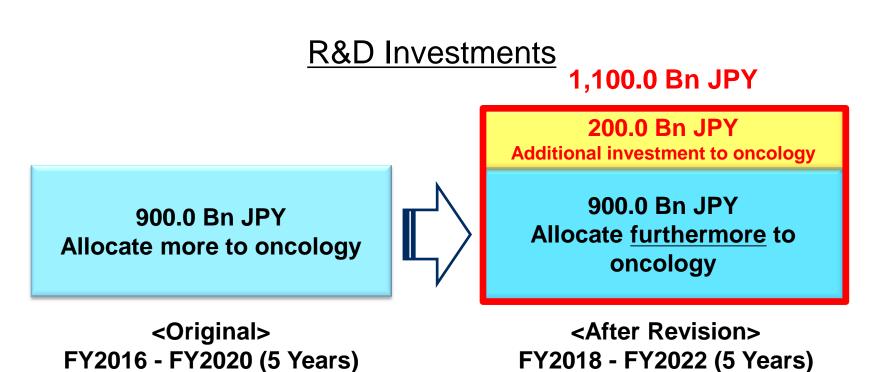
\*Total return ratio = (Dividends + Total acquisition costs of own shares) / Profit attributable to owners of the company

## **Oncology Business: Increase Investments**



FY2018 - FY2022 (5 Years)

# R&D Investments: 1,100.0 Bn JPY Prioritize the investments to maximize the potential of ADC franchise Capital Exp. to enhance oncology: 25.0 Bn JPY or more

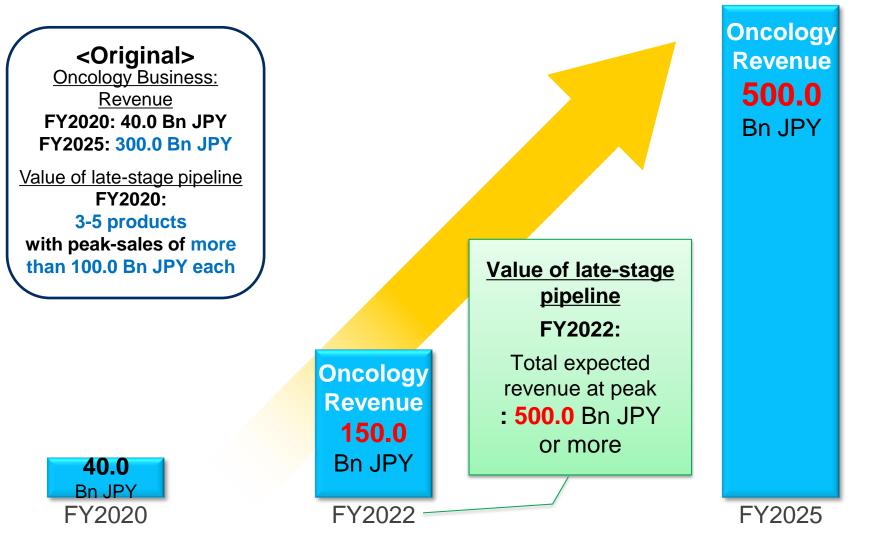


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#### **Oncology Business: Revenue Target**

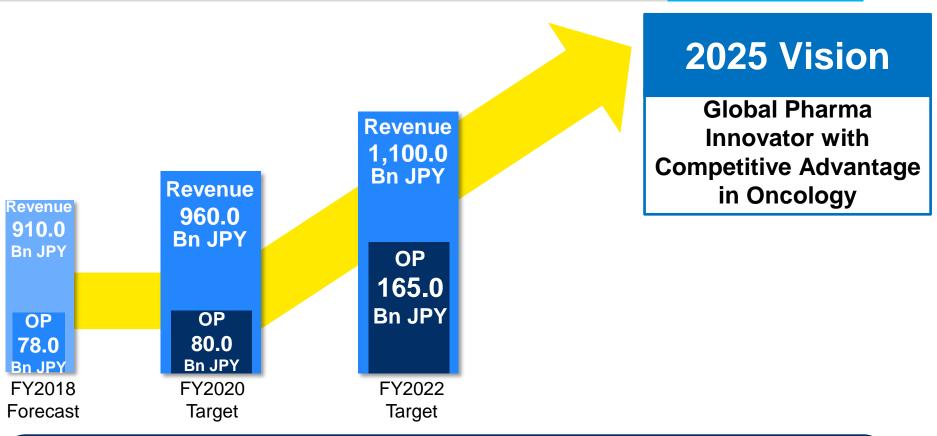


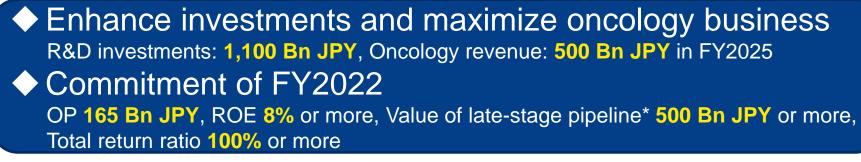
#### Expand the future oncology revenue by accelerating and enhancing the investments



#### **Toward 2025 Vision**







\* Total expected revenue at peak



# **R&D Update**

## **Glenn Gormley, MD, PhD**

Senior Executive Officer Global Head of R&D

# Agenda



# Summary of our ADC franchise

- DS-8201 update
  - P1 study: NSCLC data
  - P1 study: CRC data
  - P3 study: HER2 low BC P3 study target population
  - IO combination studies
- Update on other late stage oncology assets
- Timing for release of new Data prior to R&D Day
   R&D Day 2018





ADC Franchise								
						Clinical stage		
	Project (Target)	Potential Indication	Discovery	Pre- Clinical	Phase 1	Pivotal		
1	DS-8201 (HER2)	Breast, Gastric, CRC, NSCLC						
 2	U3-1402 (HER3)	Breast, NSCLC						
 3	DS-1062 (TROP2)	NSCLC						
 4	DS-7300 (B7-H3)	Solid tumor						
 5	DS-6157 (GPR20)	GIST						
 6	DS-6000 (undisclosed)	Renal, Ovarian						
 7	(TA-MUC1)	Solid tumor						

CRC: colorectal cancer, GIST: gastrointestinal stromal tumor, NSCLC: non-small cell lung cancer



Daiichi-Sankyo

Details in later pages

Phase 1 Breast and NSCLC studies are on track

- Update of BC data planned for SABCS 2018
- Aiming to present initial NSCLC data at ASCO 2019
- Portability of ADC technology to other antibodies was validated based on BC data presented at ASCO 2018





**DS-8201** 

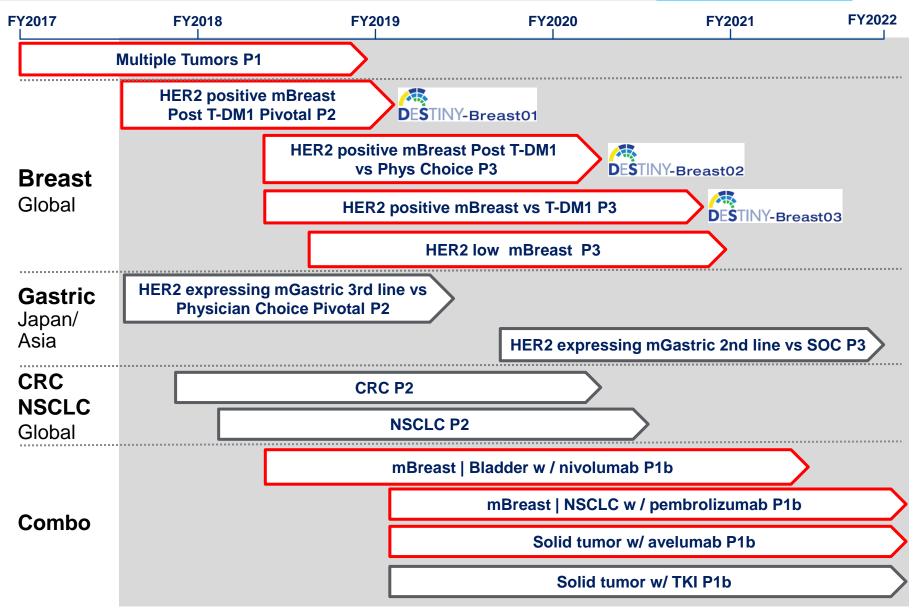
- DS-1062: Phase 1 NSCLC study is on track
  - Aiming to present initial data at ASCO 2019
- DS-7300: preparing for Phase1 study to start in FY2019

DS-6157: disclosed target antigen=> GPR20

# 淋 DS-8201: Clinical Program

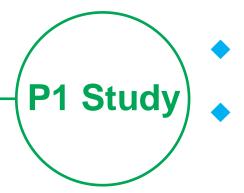
As of Oct 2018





## 🗱 DS-8201: Update





NSCLC: Oral presentation at WCLC 2018 (World Conference on Lung Cancer)

CRC: Poster presentation at ESMO 2018

- Completed enrollment of Phase 2 Pivotal study (DESTINY-Breast01 Study)
  - Started two Phase 3 studies
  - HER2 positive post T-DM1 (DESTINY-Breast02 Study)
  - HER2 positive vs. T-DM1 (DESTINY-Breast03 Study)
- Determined target population for HER2 low P3 study



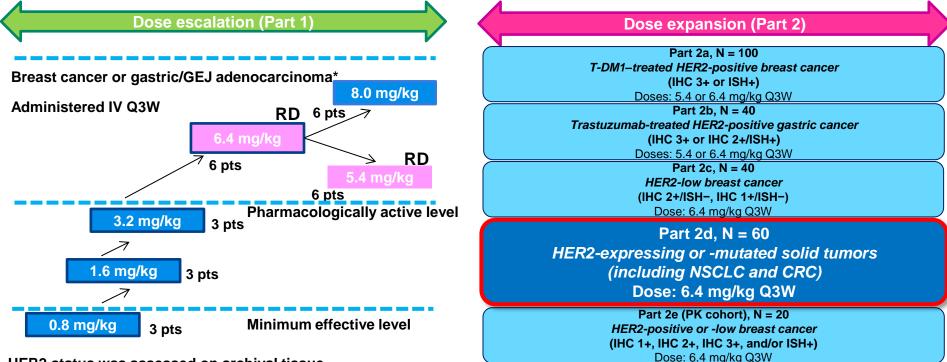


- First subject dosed for nivolumab combination P1b study
- Pembrolizumab combination clinical research collaboration
- Avelumab combination clinical research collaboration

Red: details in later page

#### X DS-8201: Study Design of Phase 1 Study





#### HER2 status was assessed on archival tissue.

\*Subjects in part 1 were not required to have HER2-positive (IHC 3+ or IHC2+/ISH+) tumors. GEJ, gastro-esophageal; HER2, human epidermal growth factor receptor 2; IHC, immunohistochemistry; ISH, in situ hybridization; IV, intravenous; NSCLC, non-small cell

lung cancer; PK, pharmacokinetic; pts, patients; Q3W, once every 3 weeks; RD, recommended dose for dose expansion; T-DM1, trastuzumab emtansine.

#### DS-8201: Demographics and Baseline Characteristics of NSCLC and CRC Patients (P1 Part 2d)



	NSCLC (N = 18)
Age, median (range), years	58.0 (23.0-83.0)
ECOG performance status 0, n (%)	4 (22.2)
ECOG performance status 1, n (%)	14 (77.8)
HER2-mutated, n (%)	11 (61.1)
Exon 20 insertions	8 (44.4)
Transmembrane domain mutation (G660D)	2 (11.1)
Extracellular domain mutation (S310F)	1 (5.6)
Missing/not examined HER2-mutated status, n (%)	7 (38.9)
Prior cancer regimens, median (range)	3.0 (1.0–10.0)
Sum of tumor diameters, median (range), cm	7.3 (2.0–17.0)

Data cutoff, August 10, 2018.

ECOG, Eastern Cooperative Oncology Group; HER2, human epidermal growth factor receptor 2; IHC, immunohistochemistry; NSCLC, non-small cell lung cancer.

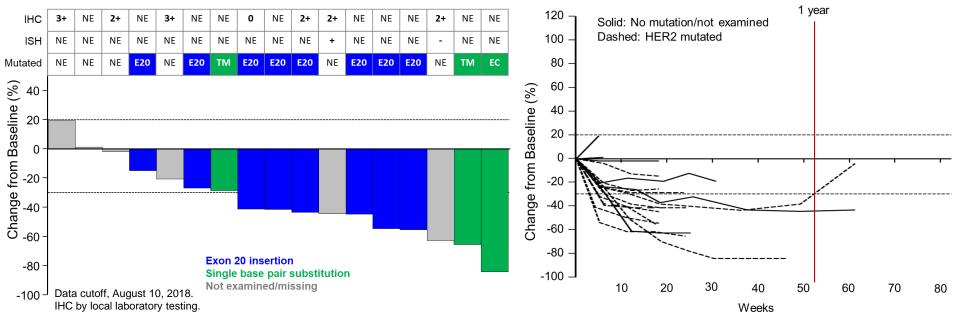
CRC (N = 20)
59.5 (35.0-75.0)
13 (65.0)
7 (35.0)
9 (45.0)
2 (10.0)
1 (5.0)
0
1 (5.0)
2 (10.0)
7 (35.0)
7 (35.0)
5 (25.0)
2 (10.0)
4
17 (85.0)

Most patients received multiple prior therapies for both NSCLC and CRC
 7 patients of IHC 0 were included in CRC

Data Presented @ WCLC 2018 Data presented @ ESMO 2018

#### X DS-8201: Phase 1 Part 2d NSCLC Efficacy





E20, exon 20 insertion; EC, single base pair substitution at extracellular domain; IHC, immunohistochemistry; ISH, in situ hybridization; NSCLC, non-small cell lung cancer; NE, not examined or missing; TM, single base pair substitution in transmembrane domain.

	Confirmed <sup>a</sup> ORR, % (n/N)	Confirmed <sup>a</sup> DCR, % (n/N)	DOR, median (range), months	TTR, median (range), months	PFS, median (range), months
HER2-expressing or HER2-mutated NSCLC N = 18	58.8% (10/17)	88.2% (15/17)	9.9 (0.0+, 11.5)	1.4 (1.0, 4.2)	14.1 (0.9, 14.1)
HER2-mutated NSCLC n = 11	72.7% (8/11)	100% (11/11)	11.5 (0.03+, 11.5)	1.4 (1.0, 4.2)	14.1 (4.0+, 14.1)

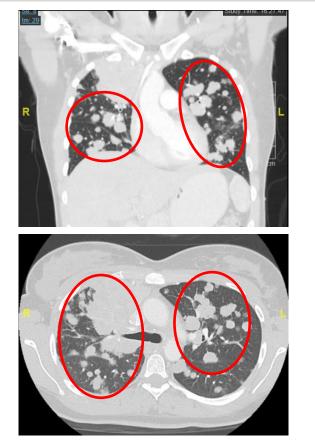
aCR/PR confirmation includes subjects who had ≥2 post baseline scans, had progressive disease, or discontinued treatment for any reason prior to second post baseline scan.

#### ORR and PFS of HER2-muated NSCLC were 72.7% and 14.1M



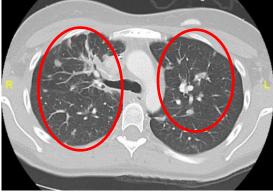
#### **DS-8201: Phase 1 NSCLC Example CT Image from Responder**





Feb 2018: baseline





May 2018

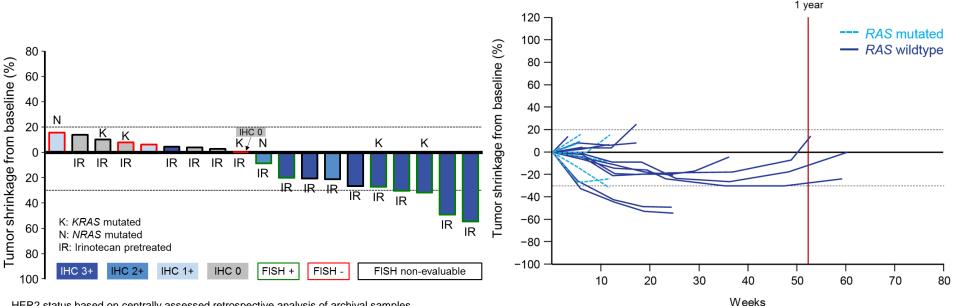
Female 23 years of age, nonsmoker
 Stage IV, nonsquamous NSCLC, HER2 mutation (exon 20 insertion)
 45% tumor shrinkage was observed (PR)

Images courtesy of Dr. Pasi Jänne. Special thanks to Dr. Pasi Jänne and Dr. Ian Krop of Dana-Farber Cancer Institute CT, computed tomography; HER2, human epidermal growth factor 2; NSCLC, non-small-cell lung cancer; PR, partial response;

Data Presented @ WCLC 2018

#### X DS-8201: Phase 1 Part 2d CRC Efficacy





HER2 status based on centrally assessed retrospective analysis of archival samples. Dotted lines denote 30% decrease and 20% increase in tumor size cutoffs for partial response and progressive disease, respectively.

FISH, fluorescence in situ hybridization; HER2, human epidermal growth factor receptor 2; IHC,

immunohistochemistry; IR, irinotecan pretreated; K, KRAS mutation; N, NRAS mutation.

	Confirmedª ORR, % (n/N)	Confirmed <sup>a</sup> DCR, % (n/N)	DOR, median (range), months	TTR, median (range), months	OS, median (range), months
CRC	15.8%	84.2%	NR	2.8	NR
N=19*	(3/19)	(16/19)	(0.0+, 5.5+)	(1.3, 8.1)	(1.0+, 17.9+)

aCR/PR confirmation includes subjects who had ≥2 post baseline scans, had progressive disease, or discontinued treatment for any reason prior to second post baseline scan. \* Evaluable patients (one IHC 0 patient was non evaluable out of 20 enrollment)

#### ORR was 15.8% for the overall population (3/19) In HER2 positive (IHC2+, 3+) CRC patients, ORR was 27.3% (3/11)

#### Data Presented @ ESMO 2018

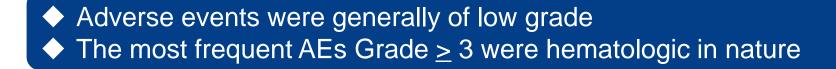


## DS-8201: Frequent TEAEs (≥20%) (all tumor types from part 1 and part 2)



All tumor types from P1 study part 1 and part 2; 5.4 or 6.4 mg/kg <sup>a</sup> (N = 259)						
	Any Grade, n (%)	Grade ≥3, n (%)				
Nausea	192 (74.1)	9 (3.5)				
Decreased appetite	147 (56.8)	12 (4.6)				
Vomiting	113 (43.6)	6 (2.3)				
Anemia	98 (37.8)	50 (19.3)				
Alopecia	97 (37.5)	0				
Fatigue	88 (34.0)	6 (2.3)				
Diarrhea	87 (33.6)	6 (2.3)				
Constipation	85 (32.8)	2 (0.8)				
Platelet count decreased	73 (28.2)	27 (10.4)				
Neutrophil count decreased	66 (25.5)	40 (15.4)				
White blood cell count decreased	66 (25.5)	32 (12.4)				
Malaise	58 (22.4)	1 (0.4)				
Pyrexia	53 (20.5)	2 (0.8)				
Aspartate aminotransferase increased	53 (20.5)	4 (1.5)				

Data cutoff, August 10, 2018. A subject was counted once if the same AE was reported more than once. aAll subjects from Part 1 and Part 2 receiving ≥1 dose of [fam-] trastuzumab deruxtecan 5.4 mg/kg or 6.4 mg/kg regardless of tumor type. AE, adverse event; TEAE, treatment-emergent adverse event.



Data Presented @ WCLC 2018 Data presented @ ESMO 2018

## Solution States States and States and States States (all tumor types from part 1 and part 2)

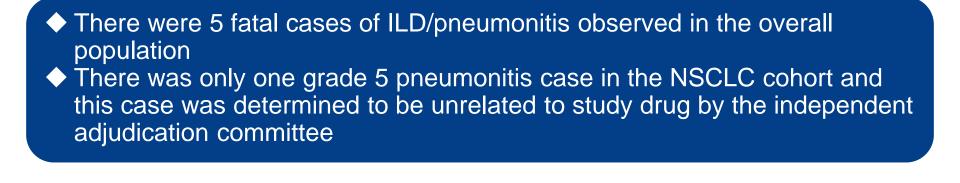


All tumor types from P1 study part 1 and part 2; 5.4 or 6.4 mg/kg <sup>a</sup> (N = 259)							
	Any Grade, n (%)	Grade ≥3, n (%)					
AST increased	53 (20.5)	4 (1.5)					
ALT increased	40 (15.4)	2 (0.8)					
Blood bilirubin increased	6 (2.3)	1 (0.4)					
Ejection fraction decreased	2 (0.8)	0					
Electrocardiogram QT prolonged	13 (5.0)	1 (0.4)					
Interstitial lung disease (ILD)	10 (3.9)	2 (0.8)					
Pneumonitis	22 (8.5)	6 (2.3)					
Infusion-related reactions	4 (1.5)	0					

Data cutoff, August 10, 2018.

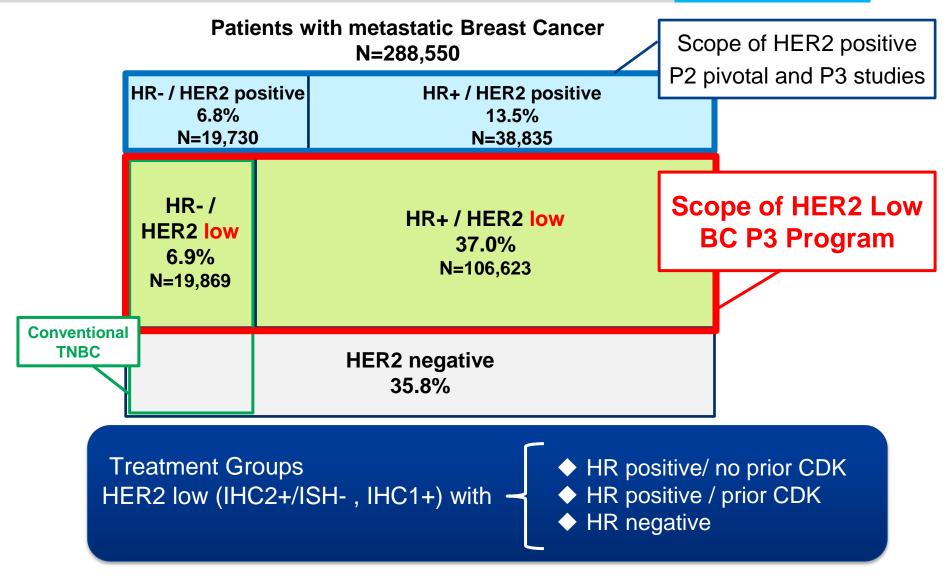
<sup>a</sup>All subjects from Part 1 and Part 2 receiving ≥1 dose of [fam-] trastuzumab deruxtecan 5.4 mg/kg or 6.4 mg/kg regardless of tumor type.

ALT, alanine aminotransferase; AST, aspartate aminotransferase; ILD, interstitial lung disease; NSCLC, non-small cell lung cancer; QTc, QT interval corrected for heart rate.



#### K DS-8201 : HER2 Low BC Phase 3 Target Population

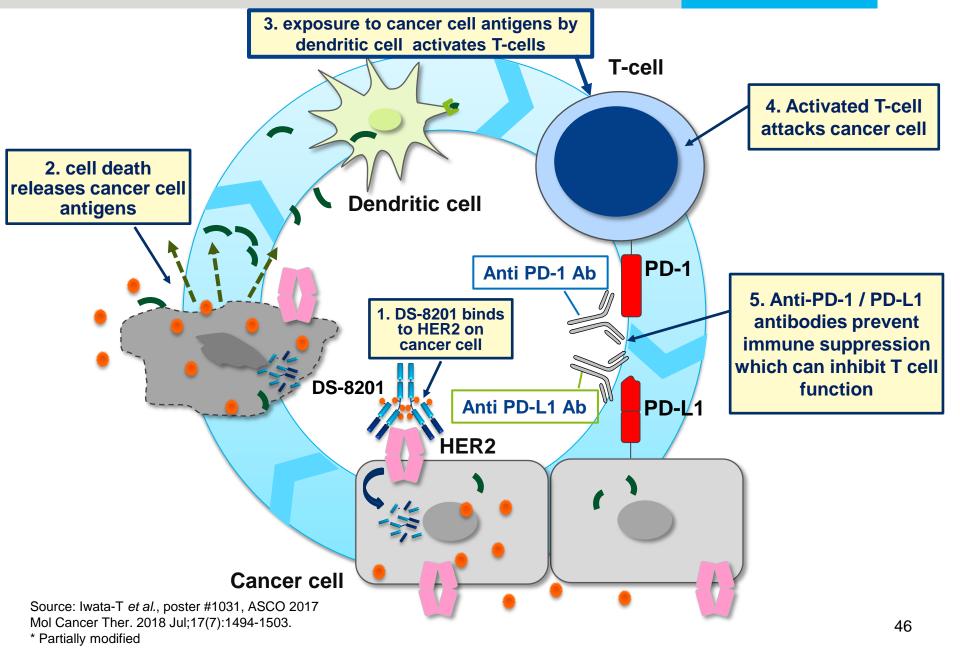




HR: hormone receptor; TNBC: triple negative breast cancer HR-: estrogen-receptor (ER) and progesterone-receptor (PR) negative

## X DS-8201: Hypothesis of IO Combo Effect

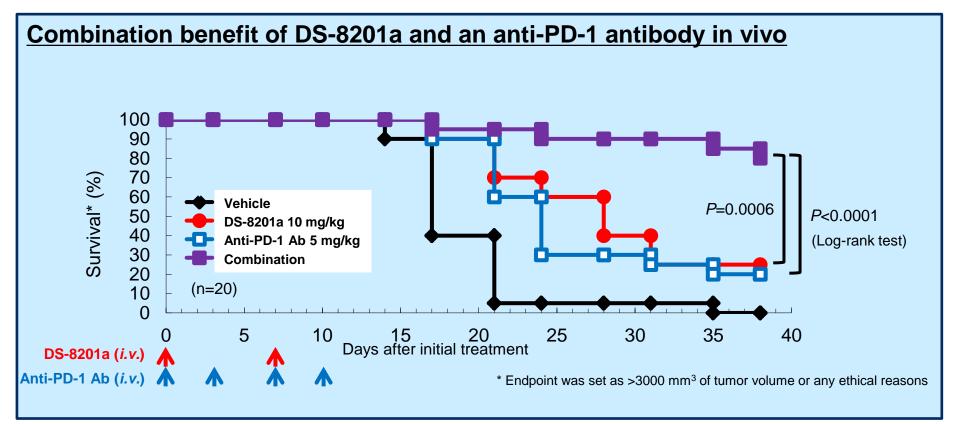




## X DS-8201: Strategy of IO Combo

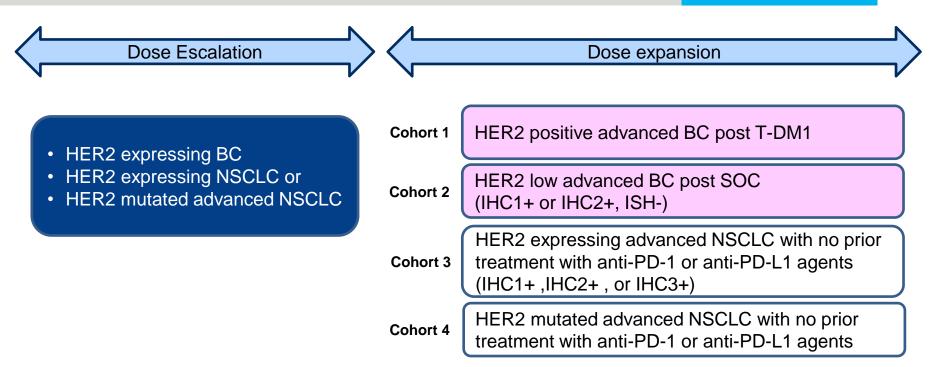


- Pre-clinical study demonstrated synergetic effect of DS-8201 and anti-PD-1 antibody
  - Three P1b studies will be conducted in multiple tumor types to identify the most effective combination for each indication
    - Nivolumab (anti PD-1 antibody): first subject dosed in August 2018 (see page 58)
    - Pembrolizumab (anti-PD-1 antibody): see page 48
    - Avelumab (anti PD-L1 antibody): see page 49



#### 💥 DS-8201: Pembrolizumab combo P1b Study

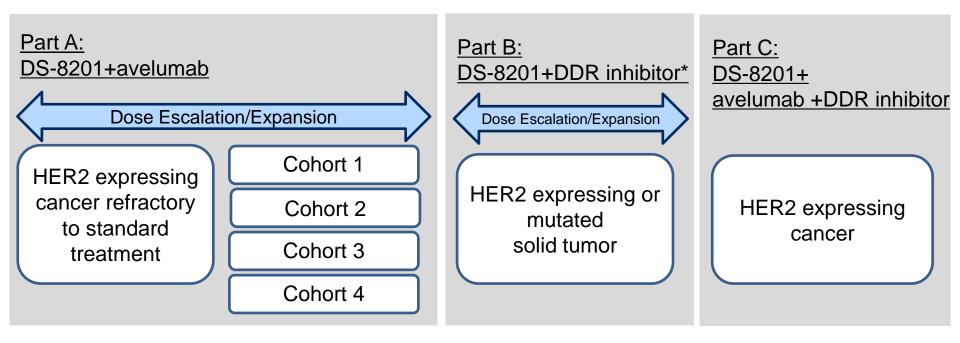




Estimated enrollment	125 patients
Primary Endpoint	MTD, RDE, ORR
Secondary endpoint	DOR, DCR, PFS, OS, TTR, Safety
JAPIC/CT.gov	N/A

#### X DS-8201: Avelumab Combo P1b Study





\*investigational DNA damage response (DDR) inhibitor of Merck KGaA

Estimated enrollment	200 patients
Primary Endpoint	MTD, RDE, ORR
Secondary endpoint	DOR, DCR, PFS, OS, TTR, Safety
JAPIC/CT.gov	N/A

### **Other Update**

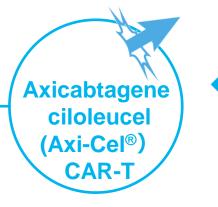




#### Submission in JP/US/EU

- JP: submitted on October 17<sup>th</sup> (Orphan Drug Designation)
  - Based on safety and efficacy data confirmed in JP P2 study (bridging study to QuANTUM-R)
- US: rolling submission (Breakthrough Therapy Designation)
- EU: on track for 2H FY2018 (Orphan Drug Designation)
- Submit US NDA in 2H FY2018
  - US: Orphan Drug and Breakthrough Therapy Designations
  - EU: Orphan Drug Designation





Will start clinical trial in Japan in 2H FY2018
Orphan Drug Designation

#### **Next Data Points until R&D Day**



 December 1-3, 2018: American Society of Hematology (ASH) @ San Diego
 AML Franchise: Multiple abstracts submitted (including Quizartinib QuANTUM-R)

December 4-8, 2018: San Antonio Breast Cancer Symposium (SABCS)

- DS-8201
  - P1 study BC HER2 positive/low update
  - Dose justification for BC P2 and P3 studies
  - Result of ILD Adjudication Committee
- U3-1402
  - BC P1 study update



## **R&D Day 2018**



#### Date: December 12, 2018 (wed) 15:00 – 17:00 (plan)

Location: Daiichi Sankyo Headquarters, Tokyo

#### Contents (plan)

- CE\* 2025: overall progress towards our long-term strategy
- ADC Franchise: critical data and progress / forward plan
- AML Franchise: critical data and progress / forward plan

\*Cancer Enterprise



# Appendix

- R&D Milestone Events
- Major R&D Pipeline
- Out-licensing Projects
- Study Designs
- Abbreviations

### **FY2018 R&D Milestone Events**

As of Oct 2018



						FY2019	
Project	Study / Indication		FY2				
		Q1	Q2	Q3	Q4	Q1	
	P1: multiple tumors		Enroll completed				
	P2: HER2 positive mBC Post T-DM1 pivotal study		Enroll completed				
	P3: HER2 positive mBC Post T-DM1 vs Phys Choice		Study started				
	P3: HER2 positive mBC vs T-DM1		Study started				
DS-8201	P3: HER2 low mBC			Study start planned			
	P2: NSCLC	Study started					
	P1b: mBC/Bladder with nivolumab		Study started				
	P1b: mBC/NSCLC with pembrolizumab					Study start planned	
	P1b: solid tumor with avelumab					Study start planned	
U3-1402	P1/2: mBC	P2 part study started					
Quizartinib	P3: QuANTUM-R AML Relapsed/Refractory	TLR		Submission			
DS-3032	P1: AML with Quizartinib		L	Study start planned			
DS-3032	P1: AML with Azacitidine		<b>1</b>	Study start planned			
Pexidartinib	P3: TGCT (US)			Submission			
Axi-Cel <sup>®</sup>	P2: BCL (JP)			Study star	rt planned		
D0 4005	P1: EGFRm NSCLC with osimertinib		Î	Study start planned			
DS-1205	P1: EGFRm NSCLC with gefitinib			Study started			
Mirogabalin	P3: DPNP/PHN (JP)				Approval		
Esaxerenone	P3: Essential hypertension (JP)				Approval		
Laninamivir	P3: Anti-influenza (nebulizer formulation) (JP)		Submission				
DS-5141	P1/2: DMD (JP)	TLR	Extension study started				

AML: acute myeloid leukemia, BCL: B-cell lymphoma, CRC: colorectal cancer, DMD: Duchenne muscular dystrophy, DPNP: diabetic peripheral neuropathic pain, GBM: glioblastoma multiforme, mBC: metastatic breast cancer, mGC: metastatic gastric cancer, NSCLC: non-small cell lung cancer, PHN: Postherpetic neuralgia, TGCT: tenosynovial giant cell tumor, TLR: Top Line Results

## **Major R&D Pipeline (Oncology)**



	Generic Name/Project Code Number	Target indication	Desien	Stage			
	(Class)	Target indication	Region	Phase 1	Phase 2	Phase 3	NDA/BLA
X		mBC (HER2 positive post T-DM1)	JP/US/EU/Asia				
		mBC (HER2 positive vs. T-DM1)	JP/US/EU/Asia				
nise	DS-8201 (Anti-HER2 ADC)	mGC (HER2 positive post trastuzumab)	JP/Asia				
anch		CRC	JP/US/EU				
ADC Franchise		NSCLC	JP/US/EU				
AD(		mBC and bladder cancer (w nivolumab)	US/EU				
		mBC	JP/US				
	U3-1402 (Anti-HER3 ADC)	NSCLC	US				
	DS-1062 (Anti-TROP-2 ADC)	NSCLC	JP/US				
0	Quizartinib/AC220 (FLT3 inhibitor)	AML (Relapsed/Refractory)	JP/US/EU/Asia				
0		AML (1 <sup>st</sup> line)	JP/US/EU/Asia				
e	DS-3032 (MDM2 inhibitor)	Solid tumor	JP/US				
chis		AML	US				
-ran		ATL/L, PTCL	JP				
AML Franchise	DS-3201 (EZH1/2 inhibitor)	AML, ALL	US				
A	PLX51107 (BRD4 inhibitor)	AML, solid tumor	US				
	DS-1001 (IDH1m inhibitor)	Glioma	JP				
	PLX2853 (BRD4 inhibitor)	AML, solid tumor	US				
1	Pexidartinib (CSF-1/KIT/FLT3 inhibitor)	TGCT	US/EU				
M	DS-1647 (G47∆ virus)	Glioblastoma	JP				
Breakthrough Science	Axi-Cel <sup>®</sup> (Anti-CD19 CAR-T cells)	BCL	JP				
Scier Scier	DS-1205 (AXL inhibitor)	NSCLC (w osimertinib(US), gefitinib (JP))	US/JP				

ALL: acute lymphoblastic leukemia, AML: acute myeloid leukemia, ATL/L: adult T-cell leukemia/lymphoma, BCL: B-cell lymphoma, CRC: colorectal cancer, mBC: metastatic breast cancer, mGC: metastatic gastric cancer, NSCLC: non-small cell lung cancer, PTCL: peripheral T-cell lymphoma, TGCT: tenosynovial giant cell tumor ★: projects in the field of oncology which are planned for application based on the results of P2 studies

## Major R&D Pipeline (SM/Vaccine) As of Oct 2018



	Constant North (Decised Code Number (Class)		Deview		Sta	ige	
	Generic Name/Project Code Number (Class)	Target Indication	Region	Phase 1	Phase 2	Phase 3	NDA
ō.		AF	ASCA				
8	Edoxaban/DU-176b (Fxa inhibitor)	VTE	ASCA				
		Very elderly patients AF	JP				
(WS)	Prasugrel/CS-747 (anti-platelet agent)	Ischemic stroke	JP				
ne (S	Encyconnenc/CC 2450 (MD optogenist)	Hypertension	JP				
edici	Esaxerenone/CS-3150 (MR antagonist)	Diabetic nephropathy	JP				
Specialty medicine	DS-1040 (TAFIa inhibitor)	Acute ischemic stroke, Acute pulmonary embolism	JP/US/EU				
scial	DS-2330 (hyperphosphatemia treatment)	Hyperphosphatemia in chronic kidney disease	-				
Spe	Mirogabalin/DS-5565 (α2δ ligand)	DPNP, PHN	JP				
	Laninamivir/CS-8958 (neuraminidase inhibitor)	Influenza	JP				
	DS-5141 (ENA oligonucleotide)	DMD	JP				
	DS-1211(TNAP inhibitor)	Prevention of ectopic calcification diseases	US				
O	VN-0107/MEDI3250 (live attenuated influenza vaccine)	Prevention of seasonal influenza	JP				
Vaccine 💘	VN-0105 (DPT-IPV/Hib)	Prevention of pertussis, diphtheria, tetanus, poliomyelitis and Hib	JP				,
Vac	VN-0102/JVC-001 (Measles-Mumps-Rubella vaccine)	Prevention of Measles, Mumps and Rubella	JP				

AF: atrial fibrillation, DMD: Duchenne muscular dystrophy, DPNP: diabetic peripheral neuropathic pain, PHN: Postherpetic neuralgia, VTE: venous thromboembolism

#### **Out-licensing Projects**

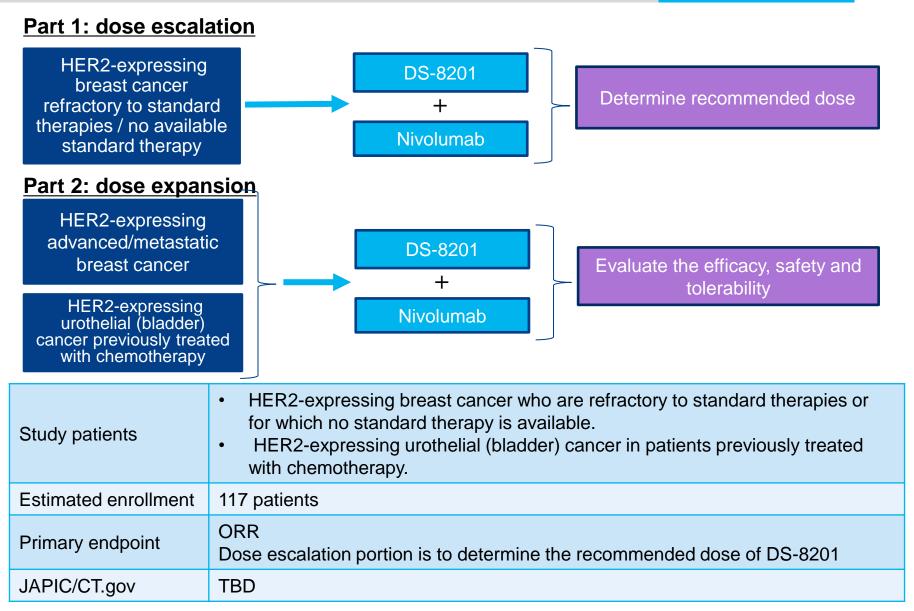
As of Oct 2018



	Pre-clinical	Phase1	Phase 2
Oncology		DS-6051 (NTRK/ROS1 inhibitor)	
Specialty Medicine	<ul> <li>DS-1515 (Inflammatory disease/PI3Kδ inhibitor)</li> <li>DS-1039 (Cystic fibrosis / new MOA (CFTR independent fluid secretion))</li> <li>DS-7411 (Hemophilia A and B / antibody)</li> </ul>	<ul> <li>DS-2969 (Clostridium difficile infection / GyrB inhibitor)</li> <li>DS-1093 (inflammatory bowel disease (IBD)/ HIF-PH inhibitor)</li> <li>DS-7080 (AMD / Angiogenesis inhibitor)</li> </ul>	Laninamivir (CS-8958/Anti-influenza/ Out-licensing with Vaxart Inc)

#### **DS-8201: P1b Nivolumab Combination Study (US/EU)**





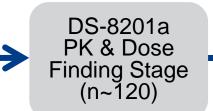
## **DS-8201 BC Pivotal P2 Study**



# DESTINY-Breast01

DS-8201a in Human Epidermal Growth Factor Receptor 2 (HER2)-Positive Breast Cancer

Archived sample HER2-pos (central) HER2+ Unresectable and/or Metastatic Breast Cancer Patients Resistant or Refractory to T-DM1



DS-8201a Dose Expansion Stage at the Recommended Phase 2 Dose (RP2D) (n~100)

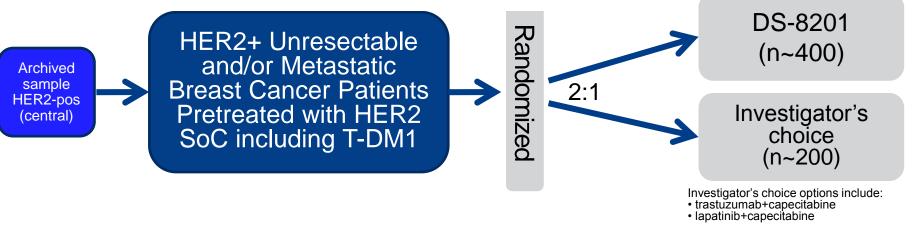
Summary	A phase 2, multicenter, open-label study of DS-8201, an anti-HER2-antibody drug conjugate (ADC) for HER2 positive, unresectable and/or metastatic breast cancer patients previously treated with ado-trastuzumab emtansine (T-DM1)
Estimated enrollment	230 patients
Primary Endpoint	ORR
Secondary endpoint	OS, PFS, CBR, DOR
JAPIC/CT.gov	JapicCTI-173693 / NCT03248492

#### **DS-8201 BC P3 Study vs Physician's Choice**





DS-8201a in Human Epidermal Growth Factor Receptor 2 (HER2)-Positive Breast Cancer



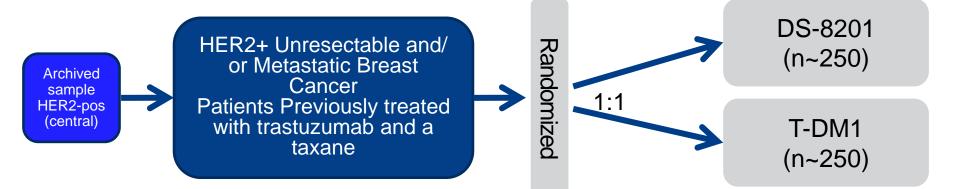
Summary	A phase 3, multicenter, randomized, open-label, active-controlled trial of DS-8201, an anti-HER2-antibody drug conjugate (ADC), versus treatment of investigator's choice for HER2-positive, unresectable and/or metastatic breast cancer patients pretreated with prior standard of care (SOC) HER2 therapies, including ado-trastuzumab emtansine (T-DM1)
Estimated enrollment	600 patients
Primary Endpoint	PFS
Secondary endpoint	OS, PK, ORR, CBR, DOR
JAPIC/CT.gov	JapicCTI-184017 / NCT03523585

## DS-8201 BC P3 Study vs T-DM1



# DESTINY-Breast03

DS-8201a in Human Epidermal Growth Factor Receptor 2 (HER2)-Positive Breast Cancer



Summary	A phase 3, multicenter, randomized, open-label, active controlled study of DS-8201, an anti-HER2-antibody drug conjugate, versus ado-trastuzumab emtansine (T-DM1) for HER2-positive, unresectable and/or metastatic breast cancer patients previously treated with trastuzumab and a taxane
Estimated enrollment	500 patients
Primary Endpoint	PFS
Secondary endpoint	OS, PK, ORR, Safety, DOR, CBR
JAPIC/CT.gov	JapicCTI-183976 / NCT03529110

#### **Abbreviations**



Abbreviation	
BTD	Breakthrough therapy designation
CR	Complete response
DCR	Disease control rate
DLT	Dose limiting toxicity
DOR	Duration of response
EGFR	Epidermal growth factor receptor
MTD	Maximum tolerated dose
NSCLC	Non-small-cell lung cancer
ORR	Overall response rate Objective response rate
OS	Overall survival
PD	Progress disease
PFS	Progression-free survival
PR	Partial response
RDE	Recommended dose for expansion
TTR	Time to response

#### **Contact address regarding this material**

Daiichi Sankyo Co., Ltd. Corporate Communications Department TEL: +81-3-6225-1126 Email: DaiichiSankyoIR@daiichisankyo.co.jp