Passion for Innovation. Compassion for Patients.™



#### **Top Management Presentation** Financial Results of FY2018 Q1 (April 1 – June 30, 2018)

# DAIICHI SANKYO CO., LTD

**Toshiaki Sai** Executive Vice President and CFO

July 31, 2018

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# FY2018 Q1 Financial Results

### Business Update







### **FY2018 Q1 Financial Results**

# **Overview of FY2018 Q1 Results**



#### (Bn JPY)

	FY2017 Q1 Results	FY2018 Q1 Results	ΥοΥ
Revenue	239.1	225.7	<u>-5.6%</u> -13.4
Cost of Sales	80.1	84.7	+4.7
SG&A Expenses	70.8	65.6	-5.2
R&D Expenses	48.0	45.5	-2.5
Operating Profit	40.3	29.9	-25.7% -10.4
Profit before Tax	42.2	29.6	-12.6
Profit attributable to owners of the Company	29.2	24.0	<u>-17.8%</u> -5.2
Currency USD/JPY	111.10	109.07	-2.03
Rate EUR/JPY	122.19	130.06	+7.87

### Revenue



#### Decreased by 13.4 Bn JPY (Decreased by 14.2 Bn JPY excl. forex impact) (Bn JPY)



	( )
Positive Factors	Negative Factors
Japan	
Lixiana +5.4 Pralia +1.1 Daiichi Sankyo +6.5	Olmetec -12.6 Nexium -2.8 Loxonin -1.6 *Incl. impact of price revision in Japan
Olmesartan AG, Rosuvastati Daiichi Sankyo ····· +1.5 Healthcare	n AG etc.
Daiichi Sankyo, Inc.	Effient -5.5 Welchol -5.2 Olmesartan -3.6
Luitpold Injectafer +3.4 Venofer +1.0	GE injectables2.6
Daiichi Sankyo Europe	
Lixiana +4.2	Olmesartan -1.3

\* Forex impact USD: -0.8, EUR : +1.4, ASCA: +0.2

# **Operating Profit**



(Dn IDV)

#### Decreased by 10.4 Bn JPY

(Decreased by 11.5 Bn JPY excl. forex impact)



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



#### Decreased by 5.2 Bn JPY



(Bn JPY)

Financial Income/ 2.3 (Cost increased) Expenses etc.

**Deterioration of forex gains/ losses** 

Income Taxes etc. -7.8 (Cost decreased)

Impact of the tax rate reduction in US etc.

fit before Tax 42.2 29.6	-12.6
ome Taxes etc. 13.4 5.7	-7.8
a rate 31.8% 19.2% -:	12.6%
ome Taxes etc.         13.4         5.7           c rate         31.8%         19.2%         -	

Non-Controlling 0.3 Interests

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



#### (Bn JPY)

	FY2017 Q1 Results	FY2018 Q1 Results	ΥοΥ	vs. Forecast (%)
Japan	130.0	123.9	-6.1	24.9%
Daiichi Sankyo Healthcare	16.8	18.4	+1.5	24.8%
Daiichi Sankyo Inc.	25.0	11.0	-14.0	24.9%
Olmesartan	6.8	3.2	-3.6	45.0%
Welchol	10.1	4.9	-5.3	19.4%
Effient	6.1	0.6	-5.5	-
Savaysa	0.5	0.4	-0.1	<b>20.1%</b>
Movantik	1.3	0.9	-0.4	-
Luitpold	27.6	28.6	+1.0	26.0%
Venofer	7.4	8.2	+0.8	30.5%
Injectafer	8.1	11.2	+3.1	28.7%
GE injectables	10.7	7.9	-2.7	-
Daiichi Sankyo Europe	18.5	22.2	+3.6	26.1%
Olmesartan	9.0	8.2	-0.8	35.5%
Efient	1.9	1.9	-0.0	27.2%
Lixiana	4.9	9.7	+4.8	21.6%
ASCA (Asia, South and Central America)	19.0	19.7	+0.7	21.9%
Currency USD/JPY	111.10	109.07	-2.03	]
Rate EUR/JPY	122.19	130.06	+7.87	

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



#### (Bn JPY)

		FY2017 Q1 Results	FY2018 Q1 Results	YoY	vs. Forecast (%)
Nexium	ulcer treatment	22.6	19.8	-2.8	26.0%
Lixiana	anticoagulant	9.4	14.7	+5.4	27.3%
Memary	Alzheimer's disease treatment	12.5	12.9	+0.4	25.3%
Loxonin	anti-inflammatory analgesic	9.6	7.9	-1.6	25.5%
Pralia	treatment for osteoporosis/ inhibitor of the progression of bone erosion associated with rheumatoid arthritis	5.5	6.6	+1.1	24.4%
Tenelia	type 2 diabetes mellitus treatment	7.6	6.4	-1.2	23.8%
Inavir	anti-influenza treatment	0.7	0.1	-0.7	0.3%
Olmetec	antihypertensive agent	16.8	4.2	-12.6	21.9%
Ranmark	treatment for bone complications caused by bone metastases from tumors	3.8	3.9	+0.2	24.6%
Efient	antiplatelet agent	3.3	3.6	+0.3	24.0%
Rezaltas	antihypertensive agent	4.5	4.1	-0.4	29.1%
Urief	treatment for dysuria	2.9	2.7	-0.2	27.2%
Omnipaque	contrast medium	3.6	3.3	-0.4	32.7%



# **Business Update**



# **Lixiana: Growth in Japan**



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Daiichi-Sankyo

# **Japan: Efforts for Cancer Pain**





Opioid analgesics should be important mediation for establishing oncology business since it is prescribed in all clinical departments in which cancer patients are treated

### **Transfer of Long-listed Products**



Decided to transfer partial long-listed products in order to invest management resource preferentially to oncology area

- Transfer Products: 41 long-listed products manufactured and marketed by Daiichi Sankyo and Daiichi Sankyo ESPHA (ref. Total revenue in FY2017: JPY 9.2 Bn)
- Transferee : Alfresa Pharma Corporation



- Transfer Timing : Sequentially starting from March 2019
- Transfer Price:

JPY 8.4 Bn\*

\* Excluding transfer price for inventories

# **LPI: Growth of Iron Franchise**





\*Injectafer is not indicated for patients who are dialysis dependent

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# **R&D Update**

# **CE Major Clinical Pipeline**



Franch	nise Project Code	Potential Indications	Preclinical	Phase 1	Pivotal	Designation
U	<b>DS-8201</b> (HER2)	Breast, Gastric, CRC, NSCLC				Breakthrough Therapy SAKIGAKE
AD	U3-1402 (HER3)	Breast, NSCLC				
	<b>DS-1062</b> (TROP2)	NSCLC				
	Quizartinib (FLT3)	AML1 <sup>st/</sup> Relapsed/Refractory				Fast Track
	<b>DS-3032</b> (MDM2)	AML, Solid Tumors				
AM	<b>DS-3201</b> (EZH1/2)	AML, ALL, ATL, PTCL				
	PLX51107 (BRD4)	AML, Solid tumor				
	<b>DS-1001</b> (IDH1m)	AML, Glioma				
ď	<b>Pexidartinib</b> (CSF-1R)	TGCT				Breakthrough Therapy
Iroug	<b>DS-1205</b> (AXL)	NSCLC		)		
reakth	<b>KTE-C19</b> (CD19 CAR-T)	BCL				Breakthrough Therapy
Ê	<b>DS-1647</b> (Oncolytic virus)	Glioblastoma				SAKIGAKE

ALL: acute lymphoblastic leukemia, AML: acute myeloid leukemia, ATL: adult T-cell leukemia, BCL: B-cell lymphoma, CRC: colorectal cancer, NSCLC: non-small cell lung cancer, PTCL: peripheral T-cell lymphoma, TGCT: tenosynovial giant cell tumor



#### ♦ Organized terminology related to HER2

Commonly Used	HER2 Status	DS terminology for Future Use	
HER2 positive	IHC 3+	HER2 positive	
HER2 overexpressing	IHC 2+/ISH +	(HER2 overexpressing*)	
	IHC 2+/ISH -		
HER2 negative	IHC 1+/ISH -	HER2 IOW	
	IHC 0	HER2 negative	

\* "Overexpressing" may be used in case the terminology is used in protocol and etc.

- IHC: immunohistochemistry
  - Observes protein expression levels of HER2 (surface of cancer cell)
- ◆ ISH : in situ Hybridization
  - Observes amplification levels of HER2 gene (nuclear of cancer cell)
  - FISH: fluorescence in situ Hybridization
  - DISH: dual color in situ Hybridization

# DS-8201: Clinical Program

As of July 2018





#### **DS-8201: P1 Study Design** ADC



Part 2-a

Part 2-b

Part 2-c

Part 2-d

Part 2-e





\*Subjects in part 1 are not required to have HER2-positive (IHC 3+ or IHC2+/ISH-positive) tumors.

BC, breast cancer; EWOC, escalation with overdose control; FISH, fluorescent in situ hybridization; GC, gastric cancer; GEJ, gastroesophageal junction; HER2, human epidermal growth factor receptor 2; HNSTD, highest non-severely toxic dose; IHC, immunohistochemistry; ISH, in situ hybridization; IV, intravenous; mCRM, modified continuous reassessment method: NGS, next-generation sequencing: Q3W, once every 3 weeks: RD, recommended dose for dose expansion: T-DM1, trastuzumab emtansine.

#### ADC DS-8201 : P1 Study Demographic (5.4, 6.4mg/kg)



	HER2-Positive BC N = 111ª	HER2-Low BC N = 34 <sup>b</sup>	HER2-Positive GC N = 44 <sup>c</sup>	HER2-Expressing Other Cancers N = 51 <sup>d</sup>
Age, median (range), years	55.0 (33–77)	54.5 (33–75)	68.0 (38–79)	59 (35–76)
ECOG performance status, N (%)				
0	71 (64.0)	20 (58.8)	32 (72.7)	27 (52.9)
1	40 (36.0)	14 (41.2)	12 (27.3)	24 (47.1)
Prior therapies*, median (range)	7.0 (2–21)	7.5 (3–18)	3.0 (1–7)	3.0 (0–10)
HER2 expression (IHC), N (%)				
3+	75 (67.6)	0 (0.0)	36 (81.8)	16 (31.4)
2+	31 (27.9)	18 (52.9)	8 (18.2)	10 (19.6)
1+	1 (0.9)	16 (47.1)	0 (0.0)	2 (3.9)
Tumor size, median (range), cm	6.0 (1–23)	5.6 (1–19)	5.6 (2–20)	6.6 (2–19)

<sup>a</sup>From Part 1, 2a, and 2e; <sup>b</sup>From Part 1, 2c, and 2e; <sup>c</sup>From Part 1 and 2b; <sup>d</sup>From Part 2d. One subject with HER2-low GC is not included in the table. \*Includes neo-adjuvant and adjuvant regimens.

BC, breast cancer, ECOG, Eastern Cooperative Oncology Group; GC, gastric/gastroesophageal junction cancer; HER2, human epidermal growth factor receptor 2; IHC, immunohistochemistry.

Data cutoff for this analysis is April 18, 2018.



# DS-8201: P1 Study Efficacy



#### Tumor Shrinkage by Tumor Types: (5.4 or 6.4 mg/kg)



Includes subjects who had ≥1 postbaseline scan. Dotted lines denote 20% increase and 30% reduction in tumor size, respectively. \*Confirmed response includes subjects who had ≥2 postbaseline scans, progressive disease, or discontinued treatment for any reason prior to second postbaseline scan. Data cutoff is April 18, 2018.

Similar response pattern across all tumor types
 Confirmed ORR in the overall population: 49.3%

# **DS-8201: P1 Study Efficacy**



### Efficacy Outcomes by Tumor Type (5.4 or 6.4 mg/kg)

	HER2-Positive BC N = 111	HER2-Low BC N = 34	HER2-Positive GC N = 44	HER2-Expressing Other Cancers N = 51
Confirmed ORR* % (n/N)	<b>54.5%</b> (54/99)	<b>50.0%</b> (17/34)	<b>43.2%</b> (19/44)	<b>38.7%</b> (12/31)
<b>DCR %</b> (n/N)	<b>93.9%</b> (93/99)	<b>85.3%</b> (29/34)	<b>79.5%</b> (35/44)	<b>83.9%</b> (26/31)
ORR in modified ITT**, % (n/N)	<b>48.6%</b> (54/111)	<b>50.0%</b> (17/34)	<b>43.2%</b> (19/44)	<b>23.5%</b> (12/51)
DOR				
Median (95% CI), months	NR	<b>11.0</b> (NA)	<b>7.0</b> (NA)	<b>12.9</b> (2.8, 12.9)
PFS				
Median, (95% CI), months	NR	<b>12.9</b> (NA)	<b>5.6</b> (3.0, 8.3)	<b>12.1</b> (2.7, 14.1)
Min, max	1.0, 22.2+	0.5, 19.6+	1.2, 19.6+	0.7, 14.1+

\* Confirmed response includes subjects who had ≥2 postbaseline scans, had progressive disease, or discontinued treatment for any reason prior to second postbaseline scan. \*\* Modified ITT population included all subjects who received ≥1 dose of DS-8201a at either 5.4 or 6.4 mg/kg, including those subjects who were too early to assess, but are ongoing on study.

+ after value indicates censoring.

BC, breast cancer; CI, confidence interval; DCR, disease control rate; DOR, duration of response; GC, gastric/gastroesophageal junction cancer; HER2, human epidermal growth factor receptor 2; ITT, intent-to-treat; NA, not available; NR, not reached; ORR, overall response rate; PFS, progression-free survival. Data cutoff for this analysis is April 18, 2018.

# ORR of HER2-Low BC was 50%, similar result to HER2-positive BC, 54.5% PFS of HER2-Low BC was 12.9M and HER2-Positive BC was not reached

# DS-8201: P1 Study Safety



#### <u>Most Frequent TEAEs (≥10%, 5.4 or 6.4 mg/kg, N = 241)</u>

	Adverse Events	All grades (%)	Grade ≥3 (%)
stinal	Nausea	166 (68.9)	6 (2.5)
	Vomiting	84 (34.9)	4 (1.7)
nte	Diarrhea	64 (26.6)	2 (0.8)
troi	Constipation	51 (21.2)	0 (0.0)
Gast	Stomatitis	43 (17.8)	0 (0.0)
	Decreased appetite	134 (55.6)	8 (3.3)
Hematologic	Anemia	77 (32.0)	36 (14.9)
	Platelet count decreased	69 (28.6)	25 (10.4)
	Neutrophil count decreased	61 (25.3)	37 (15.4)
	White blood cell count decreased	58 (24.1)	30 (12.4)
	Alopecia	87 (36.1)	0 (0.0)
Other	Fatigue	67 (27.8)	4 (1.7)
	Malaise	50 (20.7)	1 (0.4)
U	Pyrexia	25 (10.4)	1 (0.4)
	Dysgeusia	24 (10.0)	0 (0.0)

Data cutoff for this analysis is April 18, 2018.

Adverse events were generally of low grade
 Most frequent AEs were gastrointestinal or hematologic in nature

# DS-8201: P1 Study Safety



### Adverse Events of Special Interest (5.4 or 6.4 mg/kg, N = 241)

AEs	All grades (%)	Grade ≥3 (%)
AST increased	47 (19.5)	2 (0.8)
ALT increased	38 (15.8)	2 (0.8)
Blood bilirubin increased	6 (2.5)	1 (0.4)
Ejection fraction decreased	2 (0.8)	0 (0.0)
Electrocardiogram QT prolonged	12 (5.0)	1 (0.4)
Interstitial lung disease	8 (3.3)	2 (0.8)
Pneumonitis	16 (6.6)	4 (1.7)
Infusion-related reactions	4 (1.7)	0 (0.0)

AE, adverse event; ALT, alanine aminotransferase; AST, aspartate aminotransferase; ILD, interstitial lung disease; LFT, liver function tests; LVEF, left ventricular ejection fraction. Data cutoff for this analysis is April 18, 2018.

Events of ILD/pneumonitis including 5 fatal cases were observed
 ALL ILD/pneumonitis cases are under evaluation of ILD adjudication committee

## **DS-8201: HER2-Low Breast Cancer**



#### Tumor Shrinkage Over Time by Tumor Type: (5.4 or 6.4 mg/kg)



Includes subjects who had  $\geq$ 1 postbaseline scan. Dotted lines denote 20% increase and 30% reduction in tumor size, respectively. Data cutoff for this analysis is April 18, 2018.

Response rate in HER2-low breast cancer increases over time
 Response continues and improves as treatment carries on
 Based on this data, HER2-low BC P3 study will start soon

# Redefined HER2 Subtype





# DS-8201: Target of HER2-Low P3 Study





#### Target population of HER2-low P3 study is HR+/HER2 low

# U3-1402: BC P1/2 Study Overview



### Study Design



### **Demographics**

	BC (N=34)
Age, median (range), y	55 (37-81)
ECOG PS, N(%)	
0	25 (74)
1	9 (26)
No. of Prior Treatment Regi	mens, N(%)
0-2	2 (6)
≧3	32 (94)
Tumor Molecular Profiles, N	N(%)
HER2 BC	3 (9)
Luminal BC	23 (68)
TNBC	7 (21)
Unknown	1 (3)
No. of Patients Receiving ≥	1 Prior Cancer
Regimen, N(%)	
HER2 therapy	7 (21)
HR therapy	23 (68)

Target of this study is HER3-positive (IHC3+/2+) advanced/ unresectable or metastatic breast cancer

# U3-1402: BC P1/2 Study Efficacy



Best Percentage Change in Sum of Diameters From Baseline in Target Lesions\*

Percentage Change in Sum of Longest Diameters



\*Analysis set: Efficacy evaluable patients with at least one scan. Baseline is defined as the last measurement taken before the first dose of study drug. \*\*Investigators assessment. For each patient, the best percent change from baseline in the sum of diameters for all target lesions is represented by a vertical bar. DCR = disease control rate; ORR = objective response rate. Based on April 27, 2018 data cutoff.

U3-1402 data resembles that of early DS-8201 data

U3-1402 ASCO 2018 ORR : 15/32 (47%)

DS-8201 ESMO 2016 ORR : 7/20 (35%)

Validates portability of ADC technology

# U3-1402: BC P1/2 Study Safety



#### Treatment-Emergent Blood and Liver related AE in ≥ 15%

#### Patients, Dose Escalation Phase (Total N = 34)\*

Preferred Term	All Grades (%)	Grade ≥ 3 (%)	Preferred Term	All Grades (%)	Grade ≥ 3 (%)
Platelet count decreased/Thrombocytopenia	23 (68)	10 (29)	ALT increased	13 (38)	3 (9)
Noutrophil count			AST increased	13 (38)	3 (9)
decreased/Neutropenia	20 (59) 9 (27)		Blood alkaline phosphatase	6 (18)	0
White blood cell count decreased	18 (53)	6 (18)	increased		
Anemia	13 (38)	4 (12)			

\*Analysis set: Patients who received at least one dose of U3-1402. Percentage is calculated using the number of patients in the column heading as the denominator. TEAE = treatment-emergent adverse event.

Based on April 27, 2018 data cutoff.

#### DLTs consisted of the followings:

- 4.8 mg/kg: one case of Gr.4 platelet count decreased
- 6.4 mg/kg: one case of Gr.4 platelet count decreased
- 8.0 mg/kg: one case of Gr.4 platelet count decreased, Gr.3 AST increased, Gr.3 ALT increased one case of Gr.3 ALT increased
- MTD has not been reached
- Serious AE's noted in 11 (32%) of treated patients
- Majority of TEAEs were Grades 1 and 2 and toxicities have so far been manageable

# ADC Franchises: Next Data Point



Sep 2018: World Congress of Lung Cancer (WCLC) DS-8201 P1 NSCLC

Abstract: early Sep

Oct 2018: European Society for Medical Oncology (ESMO) DS-8201 P1 CRC (plan)

IASI

MUNICH

2018

Poster abstract: Oct 9<sup>th</sup>, 00:05CEST Oral abstract: Oct 19<sup>th</sup>, 12:00 CEST

Dec 2018: San Antonio Breast Cancer Symposium (SABCS) DS-8201 P1 BC (plan) U3-1402 P1 BC (plan)



Abstract: early Sep

## **7th Project in ADC Franchise (with Glycotope)**



		AD	C Franchis	е		
						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 (undisclosed)	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

Maximizing the potential of our proprietary ADC technology

# **Summary of ADC Franchise**

**DS-8201** 



- For HER2-positive BC, contemplating BLA in FY2019
- Will not be confirmed before 4Q FY2018
- Interim result of HER2-low BC was similar to that of HER2-positive BC
  - ORR: HER2 low 50.0%, HER2 positive 54.5%
  - Start HER2-low / HR+ BC study soon
- First U3-1402 data release approximates that of DS-8201 at ESMO 2016
  - > U3-1402 ORR 47% (15/32) ASCO 2018
  - > DS-8201 ORR 35% (7/20) ESMO 2016

Validates portability of ADC technology



With license agreement with Glycotope, now ADC franchise has 7 projects

**U3-1402** 

#### **AML Quizartinib: AML Treatment and QuANTUM Studies**





## AML Quizartinib: QuANTUM-R Study Design Presentation





Primary endpoint: OS (ITT population) Secondary endpoint: event-free survival (ITT population) Select exploratory endpoints: transplant rate, etc.

\*Moving to HSCT is important factor for AML treatment

**Quizartinib: QuANTUM-R Study Efficacy** AML Presentation



**EHA 2018** 



Primary endpoint: significantly prolonged OS

- Quizartinib had 24% risk reduction of death compared to salvage chemotherapy
- Median OS; salvage chemo 4.7M, Quizartinib 6.2M
- Estimated survival probability at 1 year: 20% for salvage chemotherapy and 27% for quizartinib

### Quizartinib: QuANTUM-R Study Efficacy



	Percentage (95% CI)			
Characteristic	Quizartinib N = 245	Salvage Chemotherapy N = 122		
Best response				
CRc	48 (42-55)	27 (19-36)		
CR	4 (2-7)	1 (0-5)		
CRp	4 (2-7)	0 (0-3)		
CRi	40 (34-47)	26 (19-35)		
PR	21 (16-27)	3 (1-8)		
ORR (CRc + PR)	69 (63-75)	30 (22-39)		
No response	25 (20-31)	37 (28-46)		
Nonevaluable	5 (3-9)	33 (25-42)		
Transplant rate , %	32	12		

CRc : composite complete response, CR: complete remission, CRp: complete remission with incomplete platelet recovery, CRi: complete remission with incomplete hematologic recovery),

Transplant rate was substantially higher compared to salvage chemotherapy

#### AML Quizartinib: QuANTUM-R Study QT Prolongation



	Percentage			
QTcF Parameter	Quizartinib (N = 241)	Salvage Chemotherapy (N = 94)		
Maximum QTcF interval <sup>a</sup>				
Grade 1 (> 450 ms to ≤ 480 ms)	35	6		
Grade 2 (> 480 ms to ≤ 500 ms)	12	0		
Grade 3 (> 500 ms)	3	0		
Maximum QTcF change <sup>a</sup>				
> 60 ms	12	1		

<sup>a</sup>Based on central readings of triplicate electrocardiograms.

2 patients discontinued quizartinib treatment due to QTcF prolongation
 There were no occurrences of grade 4 QTcF prolongation
 Quizartinib was well-tolerated considering other adverse events

### Commitment to global submission 2H FY2018

# **Pexidartinib: TGCT Overview**



- Tenosynovial Giant Cell Tumor (TGCT) is a rare, locally aggressive, inflammatory, nonmalignant neoplasm<sup>1,2</sup>
  - Occurs mainly in the synovium of joints, bursae, or tendon sheaths<sup>1,2</sup>
  - Clinical features include swelling, pain, limited range of motion, and stiffness<sup>1</sup>
  - Surgical resection is standard primary treatment<sup>1</sup>
- Global prevalence 38,000
  - US prevalence 17,000
- No currently approved systemic therapies<sup>3-5</sup>
- 1. Staals et al. Eur J Cancer. 2016;63:34-40.
- 2. de Saint Aubain Somerhausen and van de Rijn. IARC Press. 2013;100-103.
- 3. Tap et al. N Engl J Med. 2015;351:1502-1512.
- 4. Cassier et al. Cancer. 2012;118:1649-1655.
- 5. Gelderblom et al. Lancet Oncol. 2018;19:639-648.





# **Pexidartinib: ENLIVEN Study Efficacy**

ASCO 2018 Presentation



Treatment, N (%)	Complete	Partial	Stable Disease	Progressive Disease	Not Evaluable	Overall Response Rate [95% CI]
Pexidartinib N = 61	9 (15)	15 (25)	24 (39)	1 (2)	12 (20)	24 (39) [28.1, 51.9] P < 0.0001
Placebo N = 59	0	0	46 (78)	1 (2)	12 (20)	0 [0, 6.1]



Pexidartinib potential to be first-in-class drug in patients with advanced, symptomatic TGCT when surgery is not recommended







\*Pain score evaluated with the scale of 0 (normal) - 10

# Pexidartinib: ENLIVEN Study Safety



Liver Function, N (%)	Pexidartinib Part 1 N = 61	Placebo Part 1 N = 59	Pexidartinib Crossover <sup>∗1</sup> 800 mg/d N = 30
AST or ALT $\ge$ 3 $\times$ ULN	20 (33)	0	4 (13)
TBili ≥ 2 × ULN	3 (5)	0	0
TBili $\ge 2 \times$ ULN and AST or ALT $\ge 3 \times$ ULN	3 <sup>*2</sup> (5)	0	0

<sup>\*1</sup> Subjects were allowed to start pexidartinib treatment after completion of placebo.

<sup>\*2</sup> All were serious AEs with ALP  $\ge$  2.5 x ULN.

8 patients discontinued pexidartinib due to hepatic AEs
 4 cases were serious nonfatal AEs with increased bilirubin, 1 lasting ~7 months
 All serious hepatic events emerged during the first 2 months of pexidartinib treatment

Serious liver toxicity also observed non-TGCT development program (N = 637)
 > 1 case required liver transplant and 1 case associated with death

## Commitment to submit US NDA in 2H FY2018





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

Location: Daiichi Sankyo Headquarters, Tokyo



# Appendix

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

# FY2018 R&D Milestone Events

As of Jul 2018



Ducio of	Cáudu / India cáian		FY2019			
Project	Study / Indication	Q1	Q2	Q3	Q4	Q1
Pexidartinib	P3: TGCT (US)			Submission		
Quizartinib	P3: QuANTUM-R AML Relapsed/Refractory	TLR		Subm	ission	
DE 2022	P1: AML with Quizartinib	Ì	Study initiation			
DS-3032	P1: AML with Azacitidine		Study initiation			
	P3: HER2 positive mBC Post T-DM1 vs Phys Choice		Study initiation			
	P3: HER2 positive mBC vs T-DM1		Study initiation			
	P3: HER2 low mBC			Study initiation		
DS-8201	P2: NSCLC	Study initiation				
	P1b: mBC/Bladder with nivolumab		Study initiation			
	P1b: mBC/NSCLC with IO			Î	Study initiation	
	P1b: mBC/GC with IO					Study initiation
U3-1402	P1/2: mBC	P2 Part Study initiation				
DS-1205	P1: EGFRm NSCLC with osimertinib	<b>₽</b>	Study initiation			
KTE-C19	P2: BCL (JP)	,		Study initiation		
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 initiation			

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

#### Red: New or update from FY2017 Q4 Blue: achieved

TLR: Top Line Results

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



	Generic Name/Project Code Number	Town at its disations	Desian	Stage				
	(Class)	Class) Target indication		Phase 1	Phase 2	Phase 3	NDA/BLA	
		mBC (HER2 positive post T-DM1)	JP/US/EU/Asia					
		mBC (HER2 positive vs. T-DM1)	JP/US/EU/Asia					
ise	DS-8201 (Anti-HER2 ADC)	mGC (HER2 positive post trastuzumab)	JP/Asia					
anch		CRC	JP/US/EU					
C Fra		NSCLC	JP/US/EU					
AD		mBC and bladder cancer (w nivolumab)	US/EU					
	112 1402 (Anti HER2 ADC)	mBC	JP/US					
	05-1402 (Alti-HERS ADC)	NSCLC	US					
	DS-1062 (Anti-TROP-2 ADC)	NSCLC	JP/US					
	Quizartinib/AC220 (ELT2 inhibitor)	AML (Relapsed/Refractory)	JP/US/EU/Asia					
		AML (1 <sup>st</sup> line)	JP/US/EU/Asia					
e	DS-3032 (MDM2 inhibitor)	Solid tumor	JP/US					
chis		AML	US					
Fran	$DC_{2201}$ (E7U1/2 inhibitor)	ATL/L, PTCL	JP					
ML	DS-3201 (EZH1/2 IIIIIDIOI)	AML, ALL	US					
A	PLX51107 (BRD4 inhibitor)	AML, solid tumor	US					
	DS-1001 (IDH1m inhibitor)	Glioma	JP					
	PLX2853 (BRD4 inhibitor)	AML, solid tumor	US					
	Pexidartinib (CSF-1/KIT/FLT3 inhibitor)	TGCT	US/EU					
nce	DS-1647 (G47∆ virus)	Glioblastoma	JP					
Š	KTE-C19 (Anti-CD19 CAR-T cells)	BCL	JP					
	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

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



	Constin Nome/Dreiset Cade Number (Class)	eneric Name/Project Code Number (Class) Target Indication Region		Stage			
	Generic Name/Project Code Number (Class)			Phase 1	Phase 2	Phase 3	NDA
		AF	ASCA				
	Edoxaban/DU-176b (Fxa inhibitor)	VTE	ASCA				
		Very elderly patients AF	JP				
(Mč	Prasugrel/CS-747 (anti-platelet agent)	Ischemic stroke	JP				
ne (>	Ecoverance/CS 24E0 (MP entereniet)	Hypertension	JP				
edici	Esaxerenone/CS-3150 (INIK antagonist)	Diabetic nephropathy	JP				
ty me	DS-1040 (TAFIa inhibitor)	Acute ischemic stroke, Acute pulmonary embolism	JP/US/EU				
sciali	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				
	VN-0107/MEDI3250 (live attenuated influenza vaccine)	Prevention of seasonal influenza	JP				
ccine	VN-0105 (DPT-IPV/Hib)	Prevention of pertussis, diphtheria, tetanus, poliomyelitis and Hib	JP				
Va	VN-100 (intradermal seasonal influenza vaccine)	Prevention of seasonal influenza	JP				
	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 Jul 2018



	Pre-clinical	Phase1	Phase 2
Oncology		DS-6051 (NTRK/ROS1 inhibitor)	
Specialty Medicine	<ul> <li>DS-1515 (Inflammatory disease/PI3Kō 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)

### **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

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