

Merck KGaA, Darmstadt, Germany and Pfizer

A strategic alliance to leverage the Merck KGaA, Darmstadt, Germany
iOnc R&D platform

Investor Relations



Darmstadt, Germany – November 17, 2014



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Risks and uncertainties relating to the proposed transaction with Sigma-Aldrich Corporation (“Sigma-Aldrich”) include, but are not limited to: the risk Sigma-Aldrich’s shareholders do not approve the transaction; uncertainties as to the timing of the transaction; the risk that regulatory or other approvals required for the transaction are not obtained or are obtained subject to conditions that are not anticipated; competitive responses to the transaction; litigation relating to the transaction; uncertainty of the expected financial performance of the combined company following completion of the proposed transaction; the ability of Merck KGaA, Darmstadt, Germany, to achieve the cost-savings and synergies contemplated by the proposed transaction within the expected time frame; the ability of Merck KGaA, Darmstadt, Germany, to promptly and effectively integrate the businesses of Sigma-Aldrich and Merck KGaA, Darmstadt, Germany; the effects of the business combination of Merck KGaA, Darmstadt, Germany, and Sigma-Aldrich, including the combined company’s future financial condition, operating results, strategy and plans; the implications of the proposed transaction on certain employee benefit plans of Merck KGaA, Darmstadt, Germany, and Sigma-Aldrich; and disruption from the proposed transaction making it more difficult to maintain relationships with customers, employees or suppliers.

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The foregoing review of important factors should not be construed as exhaustive and should be read in conjunction with the other cautionary statements that are included elsewhere, including the Report on Risks and Opportunities Section of the most recent annual report and quarterly report of Merck KGaA, Darmstadt, Germany, and the Risk Factors section of Sigma-Aldrich’s most recent reports on Form 10-K and Form 10-Q. Any forward-looking statements made in this communication are qualified in their entirety by these cautionary statements, and there can be no assurance that the actual results or developments anticipated by us will be realized or, even if substantially realized, that they will have the expected consequences to, or effects on, us or our business or operations. Except to the extent required by applicable law, we undertake no obligation to update publicly or revise any forward-looking statement, whether as a result of new information, future developments or otherwise.

Important Additional Information

This communication may be deemed to be solicitation material in respect of the proposed acquisition of Sigma-Aldrich by Merck KGaA, Darmstadt, Germany. The proposed acquisition will be submitted to the stockholders of Sigma-Aldrich for their consideration. In connection therewith, on November 3, 2014, Sigma-Aldrich filed a definitive proxy statement with the SEC. Sigma-Aldrich will also begin mailing the definitive proxy statement on November 3, 2014, to its stockholders of record as of the close of business on October 29, 2014. BEFORE MAKING ANY VOTING OR ANY INVESTMENT DECISION, INVESTORS AND STOCKHOLDERS ARE URGED TO READ THE DEFINITIVE PROXY STATEMENT REGARDING THE PROPOSED TRANSACTION AND ANY OTHER RELEVANT DOCUMENTS FILED OR TO BE FILED WITH THE SEC CAREFULLY AND IN THEIR ENTIRETY WHEN THEY BECOME AVAILABLE BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT THE PROPOSED TRANSACTION. Investors and stockholders may obtain free copies of the proxy statement, any amendments or supplements thereto and other documents containing important information about Sigma-Aldrich, once such documents are filed with the SEC, through the website maintained by the SEC at www.sec.gov. Copies of the documents filed with the SEC by Sigma-Aldrich will be available free of charge on Sigma-Aldrich’s website at <http://investor.sigmaaaldrich.com> under the heading “Financial Information—SEC Filings”. Stockholders of Sigma-Aldrich may also obtain a free copy of the definitive proxy statement by contacting Sigma-Aldrich’s Investor Relations Department at (314) 898-4643.

Sigma-Aldrich and certain of its directors, executive officers and other members of management and employees may be deemed to be participants in the solicitation of proxies in connection with the proposed transaction. Information about the directors and executive officers of Sigma-Aldrich is set forth in its proxy statement for its 2014 annual meeting of stockholders, which was filed with the SEC on March 21, 2014, its annual report on Form 10-K for the fiscal year ended December 31, 2013, which was filed with the SEC on February 6, 2014, and in subsequent documents filed with the SEC, each of which can be obtained free of charge from the sources indicated above. Other information regarding the participants in the proxy solicitation of the stockholders of Sigma-Aldrich and a description of their direct and indirect interests, by share holdings or otherwise, is contained in the definitive proxy statement and other relevant materials filed with the SEC.

Merck KGaA, Darmstadt, Germany – Living Innovation

Merck KGaA
Darmstadt, Germany

Oncology sales 2013



~15% of Merck KGaA, Darmstadt, Germany portfolio



Business profile

- Leading Healthcare, Performance Materials and Life Sciences company
- Global leader in Fertility and Multiple Sclerosis
- Strong reach in Emerging Markets as well as track record in EU
- Main pipeline focus on oncology, immuno-oncology and immunology
- Focus on the value of personalized treatments
- Promising Anti PD-L1 compound in multiple indications
- Over 10 years of experience in Oncology

	Immunology	Oncology	Immuno-Oncology	
Phase I	<ul style="list-style-type: none"> BTK-i (f.l.m.)¹ anti IL-17 (f.l.m.) 	<ul style="list-style-type: none"> c-Met-inhibitor PARP-inhibitor Pimasertib TH-302 	<ul style="list-style-type: none"> p70S6K/Akt-inhibitor Sym004 BRAF-inhibitor 	<ul style="list-style-type: none"> Anti PD-L1 NHS-IL 12
Phase II	<ul style="list-style-type: none"> atacept (SLE) sprifermin (OA) ATX-MS-1467 (RRMS)¹ 	<ul style="list-style-type: none"> Abituzumab Sym004 TH-302 	<ul style="list-style-type: none"> c-Met-inhibitor Pimasertib 	<ul style="list-style-type: none"> Anti PD-L1 (MCC) NHS-IL 2 (melanoma)
Phase III		<ul style="list-style-type: none"> TH-302 		

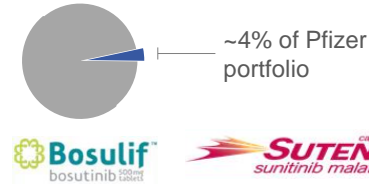
As of October 2014



Business profile

- Purpose to innovate to bring therapies to patients that significantly improve lives
- Mission to be the premier innovative biopharmaceutical company
- 2013 global oncology revenues of \$1.6 bn
- Strong mix of innovative and established brands with 40% of revenues from 3 recent launches
- Strong global commitment to oncology development and commercialization
- Investing heavily in immuno-oncology R&D

Oncology sales 2013



Oncology

Early stage	Gamma Secretase	Anti-5T4 ADC	ALK/ROS1	Notch ADC
	SMOi	MEK inhibitor	SCRx4EFNA4 ADC	
	TROP2 ADC	ALK-1 mAb	PI3K/mTor IV	
Late stage	Sunitinib	Axitinib	Dacomitinib	
	Crizotinib	Inotuzumab	Inotuzumab	

As of October 2014

Merck KGaA, Darmstadt, Germany and Pfizer – two strong players combining forces in oncology

Merck KGaA Darmstadt, Germany

R&D capabilities

- Anti PD-L1 compound with over 550 patients treated in Phase I study across multiple tumor types
- Interim analysis of expansion cohorts confirms promising risk/benefit on 2nd line NSCLC and heavily pre-treated ovarian cancer patients
- On-going Phase II study in m-Merkel cell carcinoma

Commercial strength

- Well positioned in Europe and Emerging markets



R&D capabilities

- Track record in drug development: 3 oncology product launches in 2011/2012
- Multiple immuno-oncology and oncology assets with potential for combination therapies

Commercial strength

- Substantial footprint in the U.S.
- Global oncology drugs already marketed
- Strong financial position to fully leverage potential of the Anti-PD-L1 compound

Compound and R&D expertise

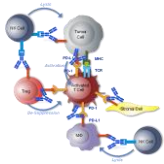


Regulatory & Commercial track record

Strong commitment to immuno-oncology

Three strategic drivers for collaboration

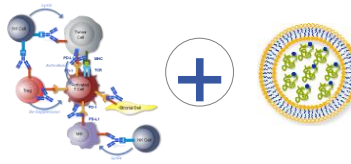
Leverage Anti PD-L 1 asset



- Combine Merck KGaA's, Darmstadt, Germany R&D and Pfizer's commercialization capabilities
- Speed up overall development process through joint R&D efforts
- Combine financial resources of two global pharma players
- Share development risk



Tackle combination therapies



- Enlarge pool of potential combinations through use of Pfizer's pipeline assets and existing products of Pfizer
- Leverage scientific expertise through joint research efforts
- Increase momentum to bring combinations to the market



Build new commercialization strength



- Co-commercialization of Xalkori in major markets
- Build up Oncology infrastructure and capabilities, especially in North America
- Broaden experience and knowledge base in advance of potential Anti-PD-L1 launch
- Additional income stream to drive R&D activities



Financial implications of the deal with Pfizer

- ▶ \$850 m upfront cash payment, accrual to be released over the duration of the patent
- ▶ ~50:50 R&D Cost split for drug development
- ▶ Milestone payments of up to \$2.0 bn based on filing/approval and commercialization of the compound across various indications & markets
- ▶ Co-commercialization of Xalkori – 2015 reimbursement for ramping up infrastructure and capabilities; followed by profit sharing agreement
- ▶ Following regulatory approval, first potential sales of Anti PD-L1 compound



A clear rationale for a strong partnership

Global partners for co-development & co-commercialization

Pfizer with a proven track record in drug development, regulatory affairs and commercialization

Development risk sharing and increased financial flexibility

Long-term commitment to immuno-oncology therapies

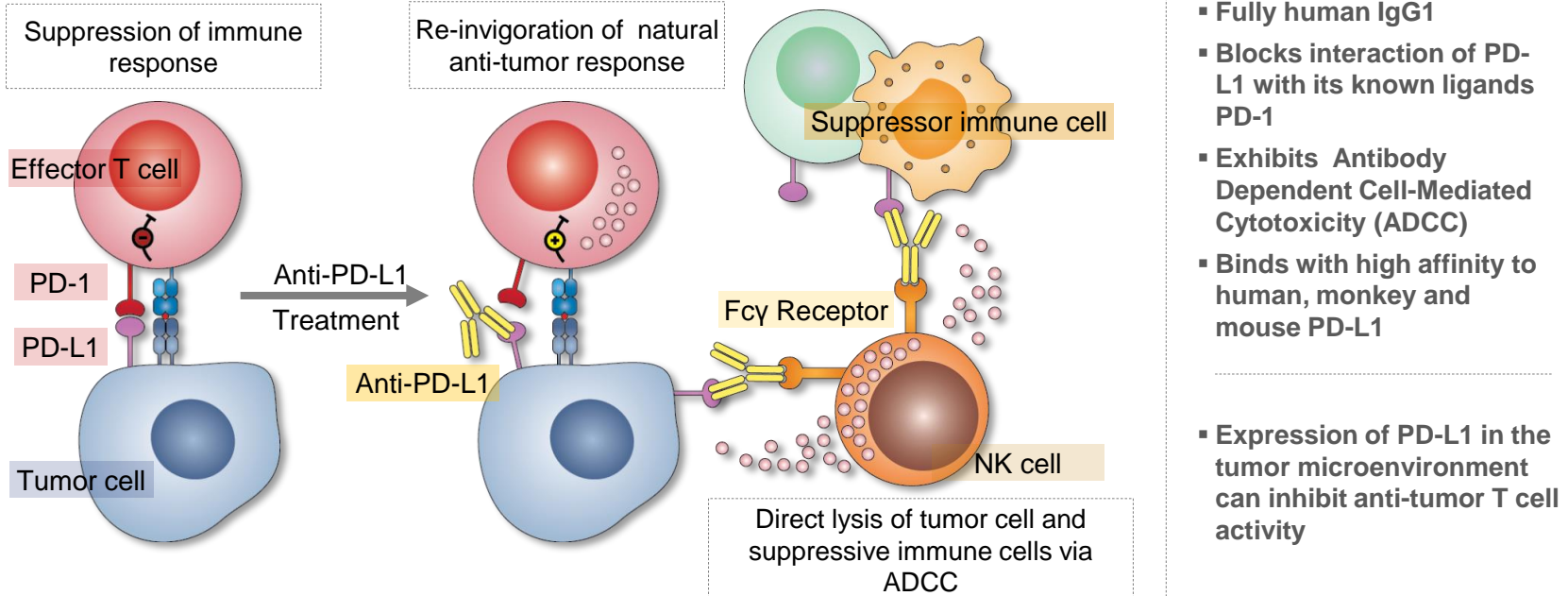
Merck KGaA
Darmstadt, Germany



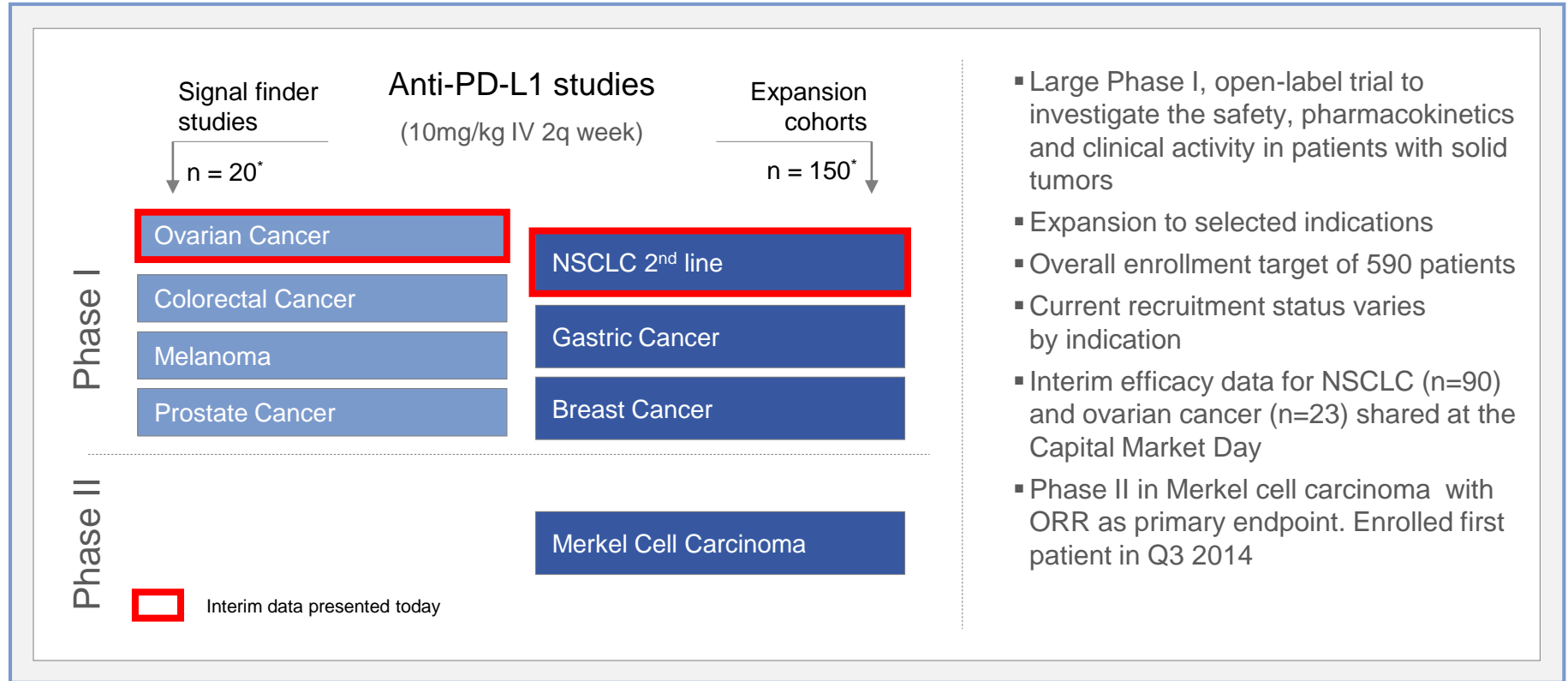
One step closer to the target of bringing Merck KGaA's, Darmstadt, Germany top pipeline projects to market

Appendix

The targeting principle of PD-1/PD-L1 in the tumor microenvironment



Current clinical program of Anti-PD-L1



- Large Phase I, open-label trial to investigate the safety, pharmacokinetics and clinical activity in patients with solid tumors
- Expansion to selected indications
- Overall enrollment target of 590 patients
- Current recruitment status varies by indication
- Interim efficacy data for NSCLC (n=90) and ovarian cancer (n=23) shared at the Capital Market Day
- Phase II in Merkel cell carcinoma with ORR as primary endpoint. Enrolled first patient in Q3 2014

*enrollment target

Phase I efficacy result: Response rates in NSCLC

Best Overall Response
by RECIST 1.1
unconfirmed

NSCLC
Intent-to-treat,
n = 90 (%)

Complete Response (CR)

1 (1.1%)

Partial Response (PR)

11 (12.2%)

Stable Disease (SD)

30 (33.3%)

Progressive Disease (PD)

35 (38.9%)

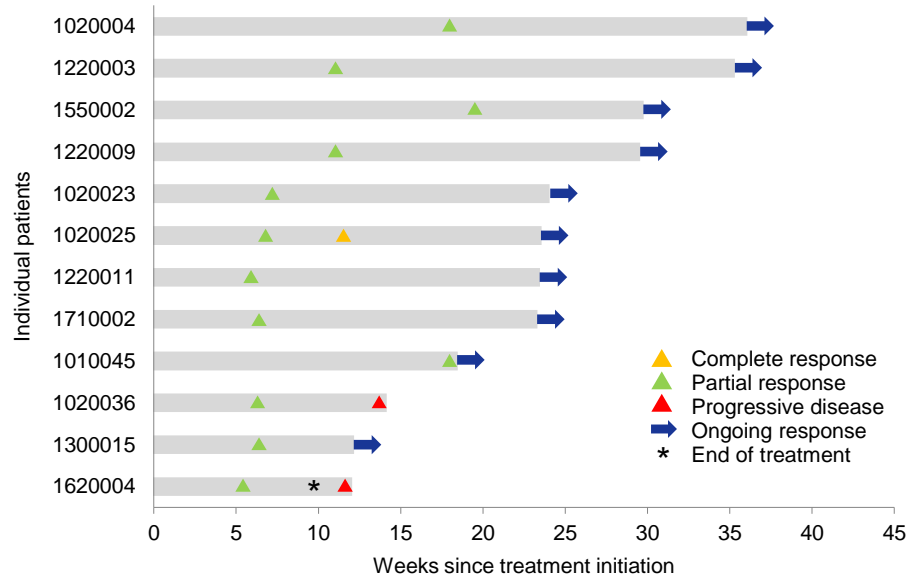
Non-evaluable (NE)

13 (14.4%)

**Objective response rate* (ORR)
[95% CI**]**

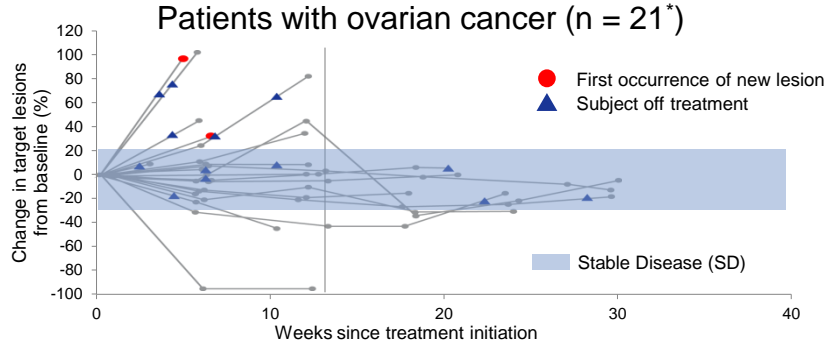
**13.3%
[7.1%, 22.1%]**

Time to and duration of response



With minimum follow-up time of 3 months, the ORR is similar to other anti-PD-1/PD-L1 agents

Phase I results in ovarian cancer: Tumor shrinkage and duration of response



Best Overall Response by RECIST 1.1 unconfirmed

Ovarian cancer
n = 23; n (%)

Complete Response (CR)

0

Partial Response (PR)

4 (17.4%)

Stable Disease (SD)

11 (47.8%)

Progressive Disease (PD)

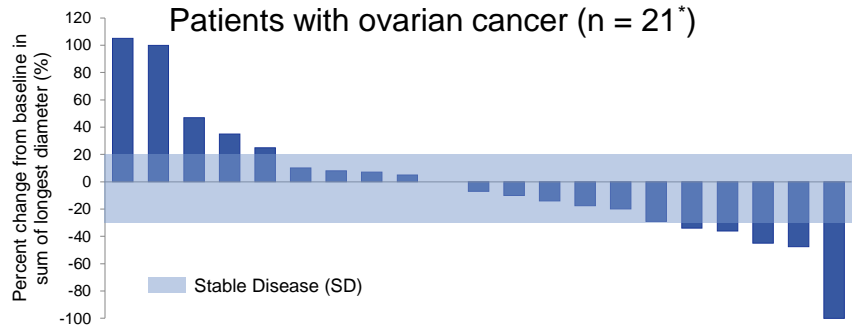
7 (30.4%)

Non-evaluable (NE)

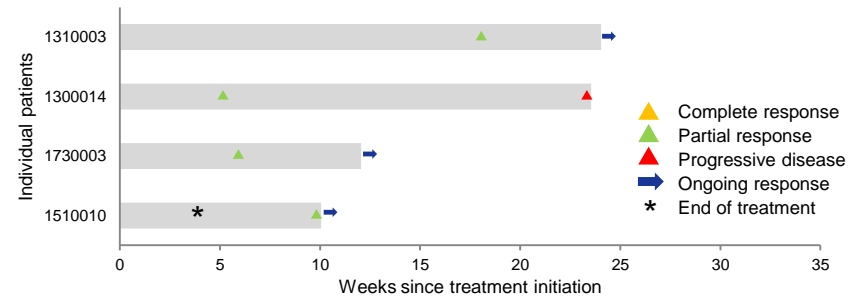
1 (4.3%)

Objective Response Rate (ORR)
[95% CI***]**

**17.4%
[5.0%, 38.8%]**



Time to and duration of response



Data presented at Merck KGaA, Darmstadt, Germany Capital Markets Day, September 18, 2014, and based on an interim analysis

*Based on evaluable patients; **Response rate per RECIST v1.1 is based on all treated patients. ORR includes both confirmed and unconfirmed responses (CR and PR); ***Confidence interval

Anti-PD-L1: Phase I dose escalation results presented at ASCO 2014

Safety

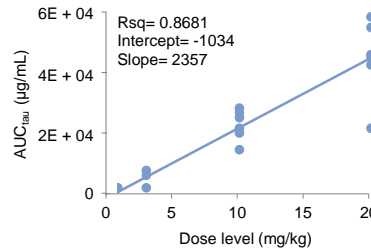
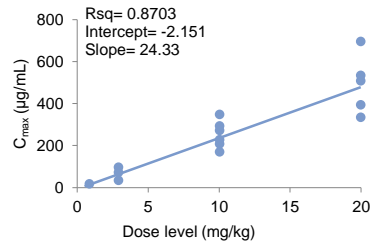
Overall summary of reported anti-PD-L1-related TEAEs

Events, n (%)	n = 28
All grades	20 (71.4)
Most common, all grades	
Fatigue	10 (35.7)
Influenza-like illness	5 (17.9)
Lymphopenia	5 (17.9)
Pyrexia	4 (14.3)
Chills	3 (10.7)
Diarrhea	3 (10.7)
Aspartate aminotransferase increased	3 (10.7)
NCI-CTCAE grade \geq 3	3 (10.7)
Leading to permanent discontinuation	3 (10.7)
Serious events	1 (3.6)
Leading to death	0

Favourable safety profile

Pharmacokinetics

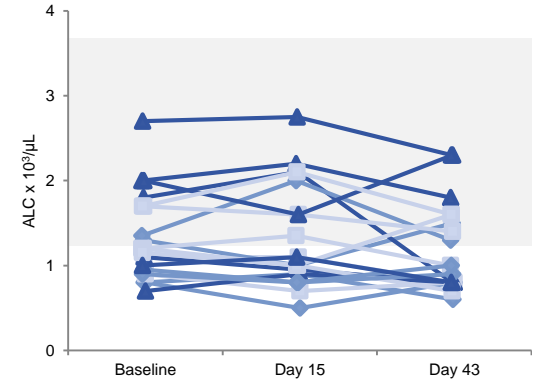
Relation between anti-PD-L1 dose and C_{max} (A) and AUC_{tau} (B)



>90% PD-L1 occupancy in blood at 10 mg/kg

Absolute lymphocyte count (ALC)

ALC changes during anti-PD-L1 treatment



1 and 3mg/kg anti-PD-L1
10 mg/kg anti-PD-L1
20 mg/kg anti-PD-L1

Normal ALC range

No evidence of ADCC against immune cell subsets

Phase I safety results: Adverse Events

	Pooled expansion cohorts (n = 290) n (%)	NSCLC (n = 127) n (%)	Ovarian cancer (n = 23) n (%)
AEs	262 (90.3)	114 (89.8)	23 (100.0)
Related AEs	198 (68.3)	87 (68.5)	18 (78.3)
AEs, Grade ≥ 3	124 (42.8)	55 (43.3)	9 (39.1)
Related AEs, Grade ≥ 3	38 (13.1)	17 (13.4)	2 (8.7)

- Current safety information based on an analysis of 290 subjects (expansion part of study -001)
- Cut-off date: Jul 16, 2014
- Minimum follow-up time: 4 weeks



Merck KGaA

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