



Immutep TACTI-002 and INSIGHT Clinical Results & Update Global Webcast Slides

Immutep will present these slides as part of its global webcast, as follows:

Date & Time 7.30 am Australian
Eastern Daylight Time / 5.30 pm US
Eastern Daylight Time

A replay of the webcast will also be available at www.immutep.com

(ASX: IMM, NASDAQ: IMMP)

Notice: Forward Looking Statements

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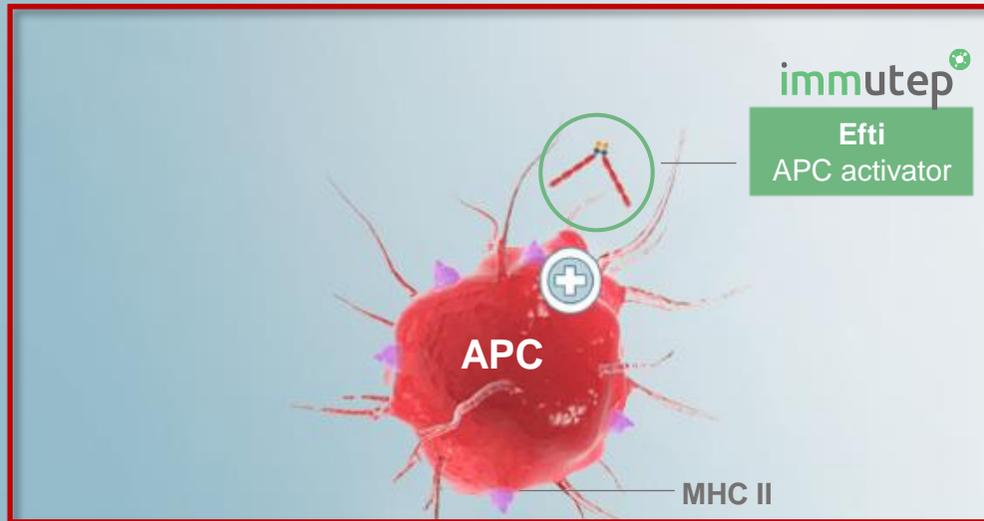
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LAG-3 Overview & Product Candidates

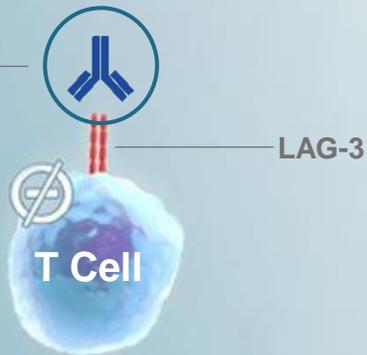
Targeting LAG-3 / MHC II may lead to multiple therapeutics in numerous indications

IMMUNOSTIMULATION



Partnered with
NOVARTIS

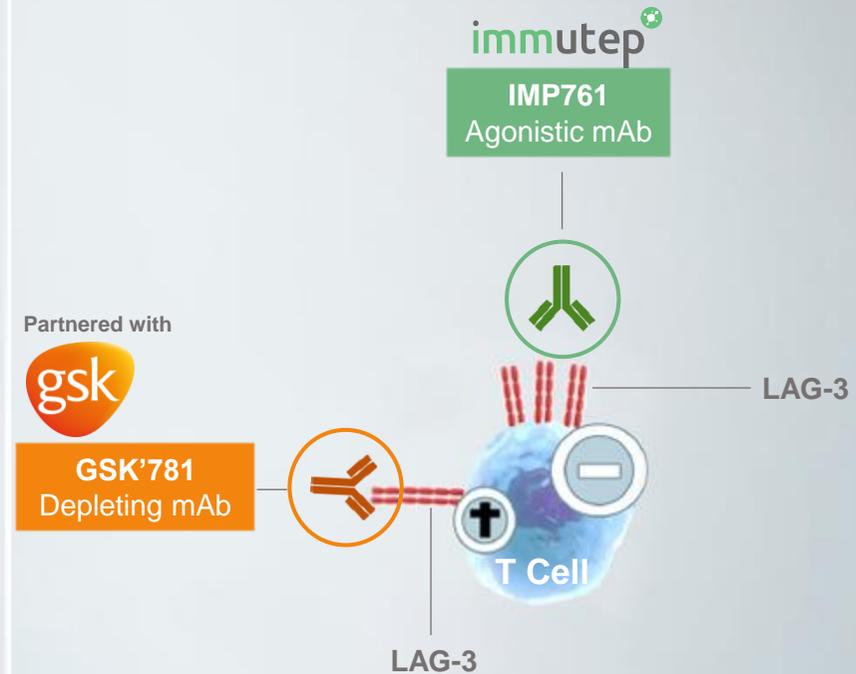
LAG525
Antagonistic mAb



Immuno-oncology
Combination Therapies

Viral Infections

IMMUNOSUPPRESSION



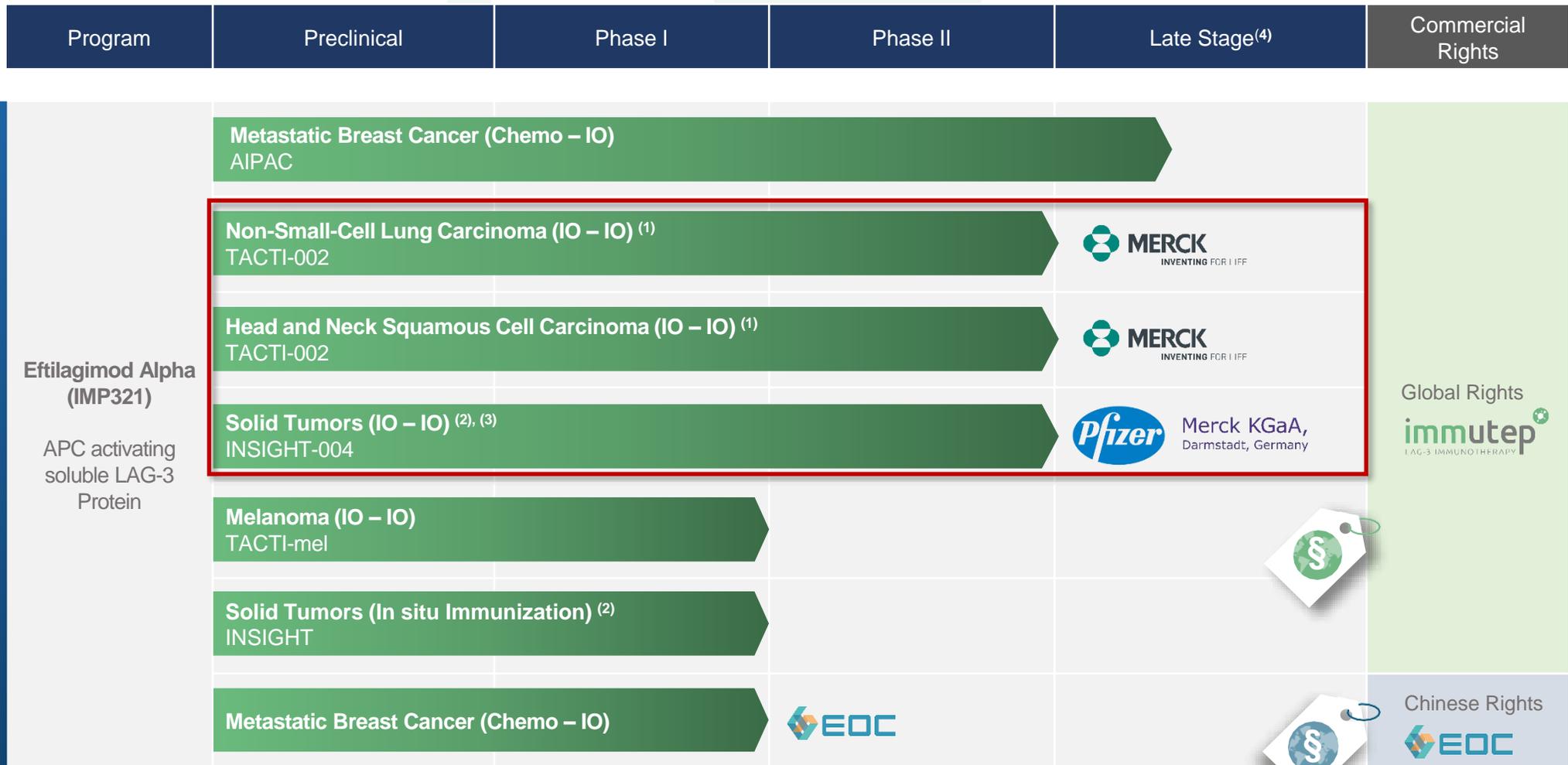
Rheumatoid
Arthritis

IBD

Multiple
Sclerosis

Eftilagimod Alpha (efti or IMP321)

Immutep Controlled Immuno-Oncology Pipeline*



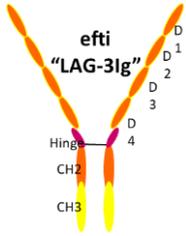
Notes:

* Information in pipeline chart current as at May 2020

- (1) In combination with KEYTRUDA® (pembrolizumab) in non-small cell lung carcinoma ("NSCLC") or head and neck carcinoma ("HNSCC")
- (2) INSIGHT Investigator Initiated Trial ("IIT") is controlled by lead investigator and therefore Immutep has no control over this clinical trial

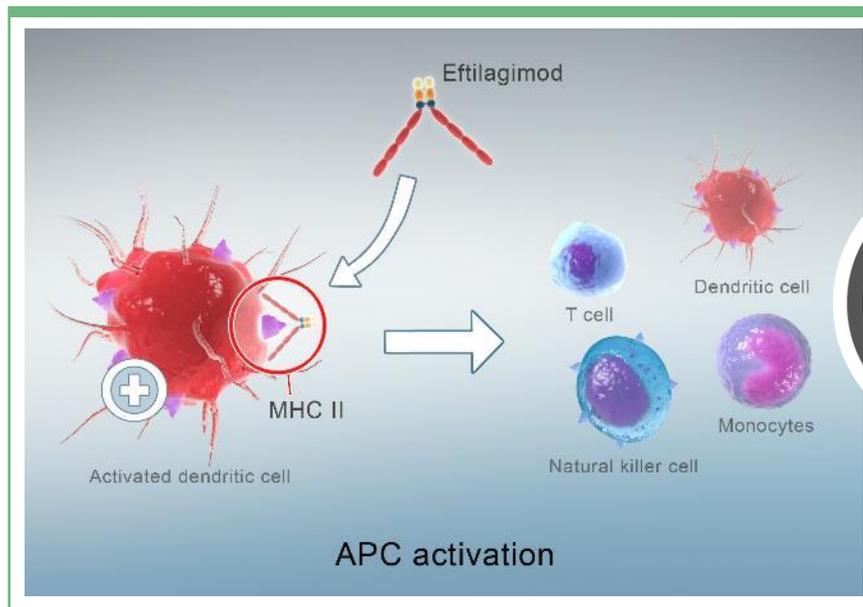
- (3) In combination with BAVENCIO® (avelumab)
- (4) Late stage refers to Phase IIb clinical trials or more clinically advanced clinical trials
- (5) EOC Pharma is the sponsor of the EOC 202 clinical trial which is being conducted in the People's Republic of China

Efti: an innovative LAG-3 I-O product candidate



- Efti is a soluble LAG-3 protein targeting a subset of MHC class II on APC
- Potentially synergistic with other therapeutic agents, e.g. I-O agents or chemotherapies

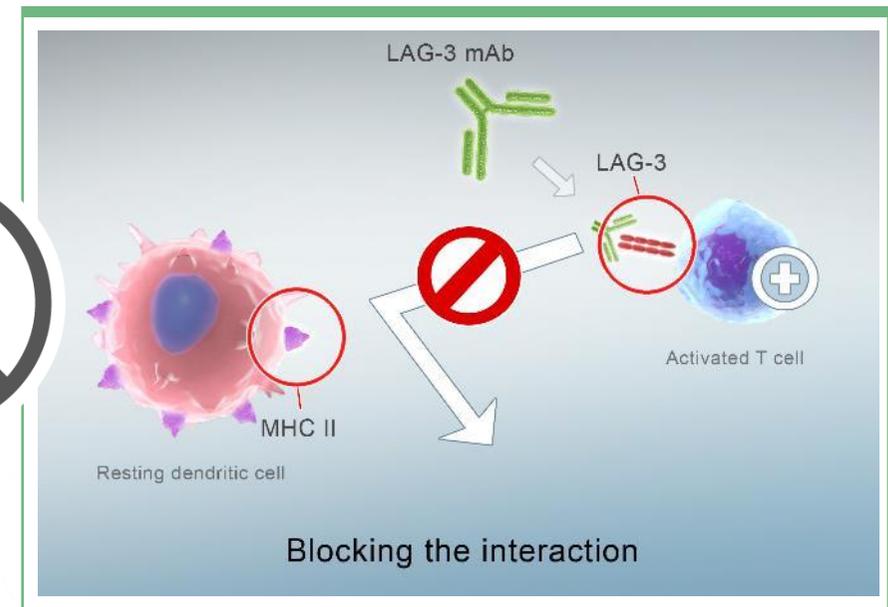
“PUSHING THE ACCELERATOR ON IMMUNE RESPONSES”



Efti is an **MHC II agonist:**
APC activator

- boost and sustain the CD8⁺ T cell responses
- activate multiple immune cell subsets

“RELEASING THE BRAKE ON THE T CELL”

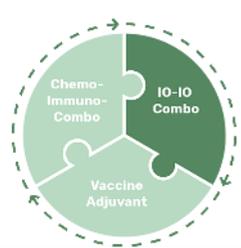


LAG-3 antagonist, or blocking, antibodies:
Immune checkpoint inhibitor

- increase cytotoxicity of the pre-existing CD8 T cell response

Combining efti and anti-PD-L1 avelumab

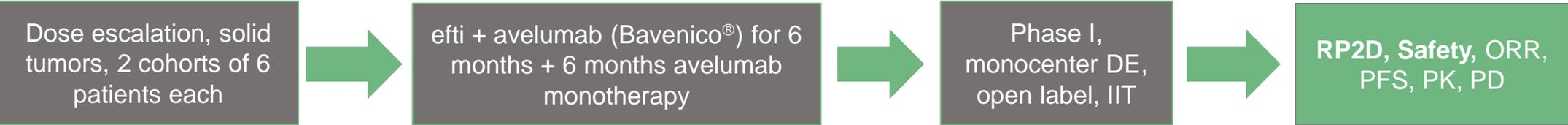
INSIGHT-004



Efti Clinical Development INSIGHT-004 (Phase I)



INSIGHT-004: dose escalation of efti in combination with avelumab



Patient Population	Solid tumors after failure of standard therapy
Treatment	6 / 30 mg efti s.c. 800 mg avelumab i.v. Both every 2 weeks

Status Report

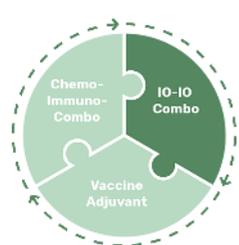
- ✓ 1 site in Germany
- ✓ Protocol approved by CA / EC
- ✓ Recruitment completed in April 2020
- ✓ No dose limiting toxicity

In collaboration with:



Merck KGaA, I.K.F.
Darmstadt, Germany

Key features: safety with a PD-L1 antagonist avelumab



Efti Clinical Development

INSIGHT-004 – initial results



- Patients were/are treated for different tumor indications, but majority for cancers of the gastrointestinal tract.
- In colorectal (CRC)- gastric (GC) and gastroesophageal junction (GEJ) adenocarcinoma usually only a small proportion of patients – around 5%⁽³⁾ – benefit from immunotherapy. Patients with proficient MMR (pMMR) or with microsatellite stable (MSS) typically do not benefit^(1; 2).

Key findings

- No DLTs and no new safety signals with standard dose of avelumab
- 4/12 (33 %) patients with partial responses (3/12 pts not yet staged) in:
 - 1st line MSI high colorectal cancer
 - 1st line pleural mesothelioma
 - After radiochemo in squamous anal cell carcinoma
 - 3rd line gastroesophageal junction

- Efti plus avelumab is safe and well tolerated
- Encouraging single cases in non ICI sensitive cancers

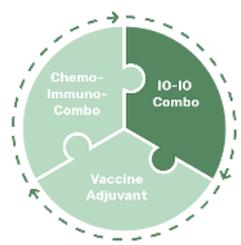
Immunotherapy in gastrointestinal malignancies^(1;2;3)

Historical comparisons in metastatic colorectal cancer	ORR in MSS mCRC
anti-PD-1 monotherapy (pembr or nivo or atezo)	~0% - 2%
anti-PD-1 + anti-CTLA-4	~7% – 11%
Radiotherapy + ipi + nivo	~15%
Historical comparisons in gastric and gastroesophageal junction adenocarcinoma	ORR in unselected GC/GEJ
anti-PD-1/PD-L1 monotherapy (Pembro or Nivo or Avelumab) in 2 nd /3 rd line	~5% - 15%

Notes:
 (1) N Huyghe et al.: Immunotherapy with immune checkpoint inhibitors in colorectal cancer: what is the future beyond deficient mismatch-repair tumours? Gastroenterology Report, 8(1), 2020, 11–24.
 (2) A Zayac, K Almhanna: Esophageal, gastric cancer and immunotherapy: small steps in the right direction? Transl Gastroenterol Hepatol 2020;5:9
 (3) J Tintelnot, A Stein: Immunotherapy in colorectal cancer: Available clinical evidence, challenges and novel approaches. World J Gastroenterol 2019 August 7; 25(29): 3920-3928

Combining efti and anti-PD-1 pembrolizumab

TACTI-002



Efti: Clinical Development TACTI-002 (Phase II)



Trial Design + Introduction



- Phase II, multi-national, open label, Simon`s 2 stage design; PD-L1 all comer
- In collaboration with Merck Sharp & Dohme (MSD)

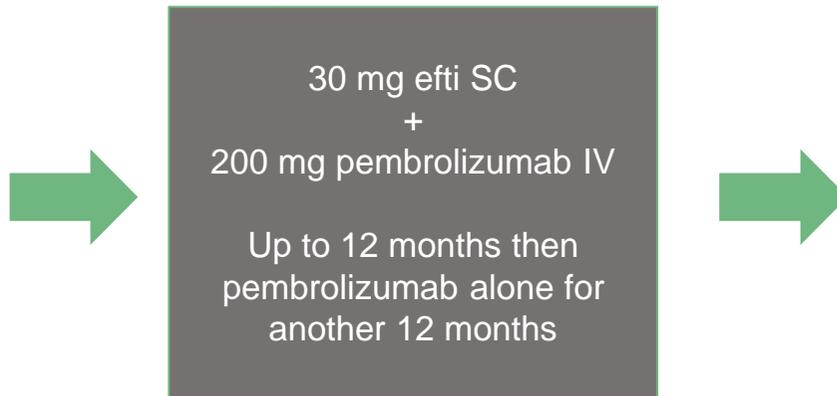
Eligibility

- Available tumor tissue
 - ECOG 0-1
- Adequate organ functions
- PD-L1 all comer

Part A:
1st line met. NSCLC

Part B:
2nd line met. NSCLC, refractory for PD-1/PD-L1

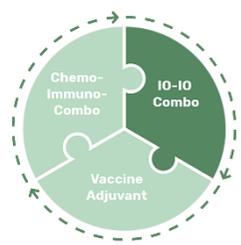
Part C:
2nd line met. HNSCC after platinum



Primary: ORR (iRECIST)

Secondary: PFS, OS, PK, biomarker, PD, safety and tolerability

Study – Part	Stage 1 (N) Actual/target	Stage 2 (N) target
Part A	17/17	17/19
Part B	19/23	13 (not yet opened)
Part C	18/18	6/19



Efti: Clinical Development TACTI-002 – Safety



Efti has a favourable safety profile in combination with pembrolizumab

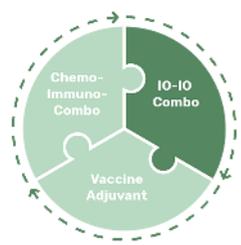
Summary TACTI-002 (N=76 in total)

- No (0%) treatment related death
- 3 (3.9 %) treatment related adverse events leading to permanent discontinuation
- 31 pts (40.8%) had ≥ 1 adverse events \geq grade 3
- No new safety signals of this combination identified until cut-off

Regimen ⁽²⁾	Treatment related adverse events leading to discontinuation	Treatment related adverse events leading to death
Double Chemo	8-22%	1-6%
Ipi + Nivo	20%	< 2%
Chemo + Pembro	23-33%	3-8%
Pembro alone	10-15%	< 2%
Efti plus pembro	4%	0%

Notes:

(1) Preliminary data, cut-off 30-Apr 2020
 (2) Source: Calculated from corresponding publications e.g.: Checkmate-227; Keynote-40/189/407/48;



NSCLC - Introduction

High unmet medical need for well tolerated and efficacious treatment options

Epidemiology⁽¹⁾:

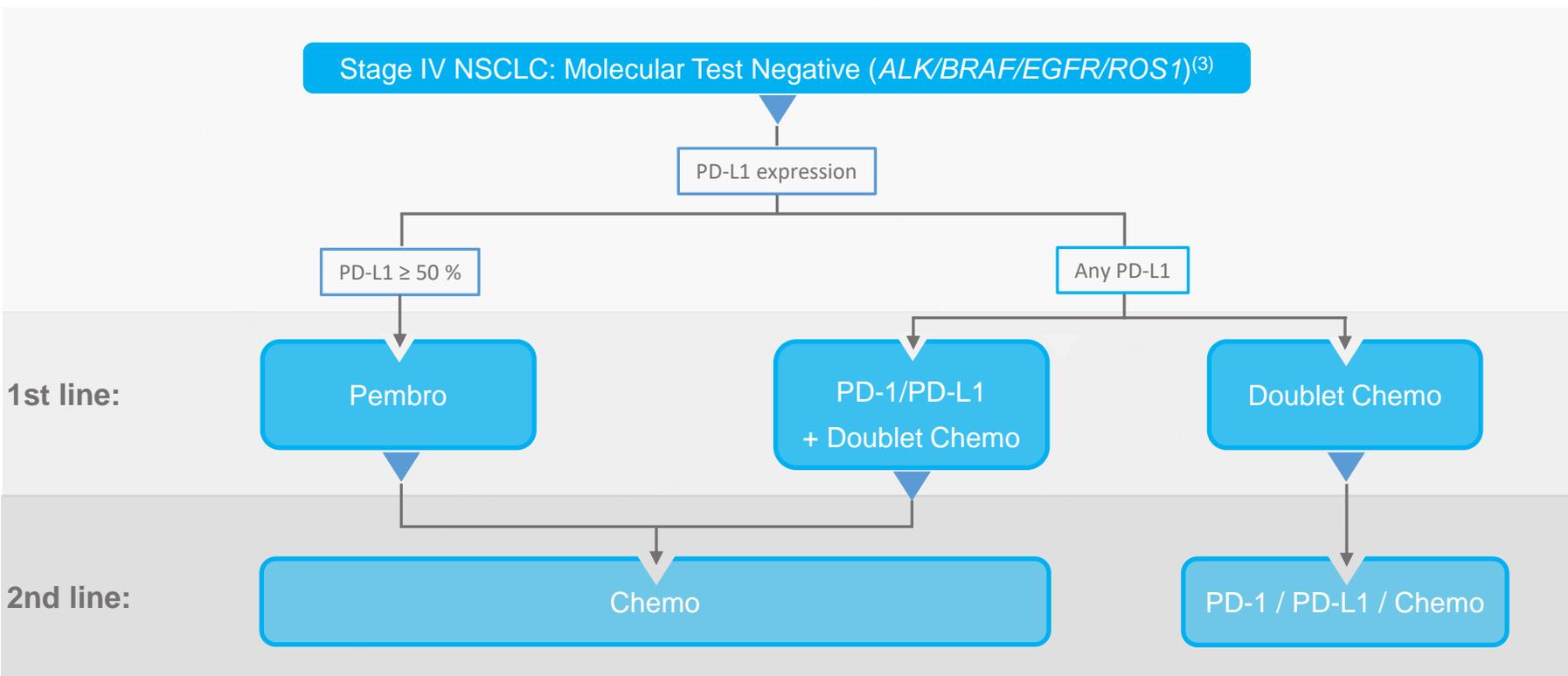
- 1,800,000 NSCLC diagnoses per annum worldwide growing by 1.5 % p.a.
- Approximately 1,300,000 develop metastatic disease and are eligible to receive anti-PD-1/PD-L1

Unmet need:

- Modest efficacy of anti PD-1/PD-L1 for pts with <50% PD-L1 (**~70% of total population**)
- Toxicity for patients / costs for health care systems of doublet chemo + PD-1/PD-L1 tremendous

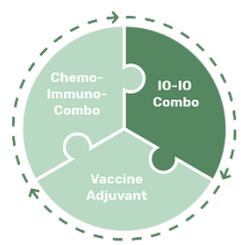
US\$33.9 billion

estimated market size by 2026⁽²⁾



Notes

(1) Calculated from Global Cancer Observatory (WHO), 2018 data
 (2) Informa Pharma Intelligence Report 2018 for US, Japan and EU5
 (3) Based on ESMO Guidelines



Efti: Clinical Development TACTI-002 - 1st line NSCLC (part A, stage 1)



Baseline Characteristics

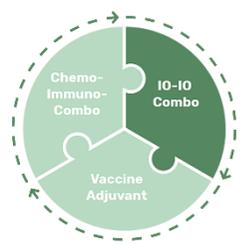
- *PD-L1 distribution as expected (~70% with < 50% PD-L1 expression) → PD-L1 all comer trial*
- *Patients are typical NSCLC 1st line pts*

Baseline Parameters (n=17)	N (%)
Median age, yrs (range)	65 (53 – 76)
Sex	
Female	6 (35.3)
Male	11 (64.7)
ECOG	
0	12 (70.6)
1	5 (29.4)
Smoking status	
Never	1 (5.9)
Current / former	16 (94.1)
Histology	
Squamous	10 (58.8)
Non-squamous	7 (41.2)
Location of disease at study entry	
Lung	8 (47.1)
Bone	5 (29.4)

Central assessment of tumor cell PD-L1 expression (done post enrollment)		
PD-L1 (n=13) ⁽²⁾	N (%)	Historical ⁽³⁾ Distribution
< 1%	3 (23%)	35%
1-49%	6 (46%)	35%
≥ 50%	4 (31%)	30%

Notes:

- (1) Preliminary data, cut-off May 04, 2020
- (2) % in reference to evaluable samples; 4 specimens not evaluable by central lab using standard IHC kit
- (3) Garon et al N Engl J Med 2015;372:2018-28



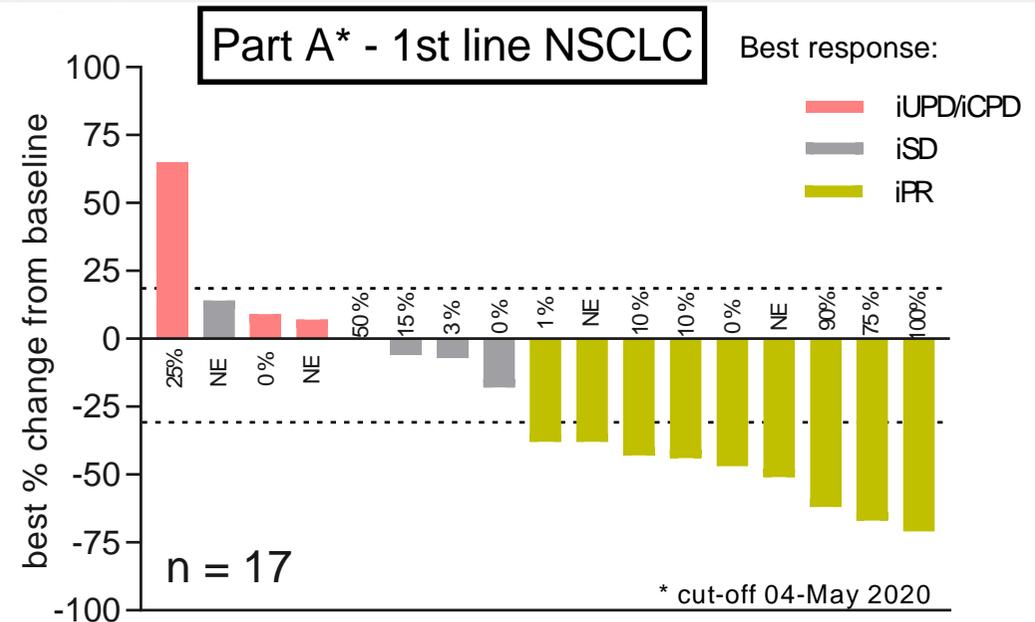
Efti: Clinical Development TACTI-002 - 1st line NSCLC (part A, stage 1)⁽¹⁾



Responses and Waterfall plot

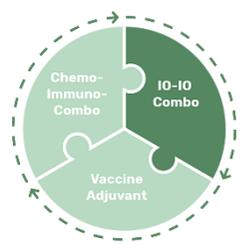
- 52.9 % iORR acc. to iRECIST in this PD-L1 all comer trial
- Responses in all PD-L1 subgroups

Tumor response - iBOR as per iRECIST	N (%) Total (N=17)
Complete Response (iCR)	0 (0.0)
Partial Response (iPR)	9 (52.9)
Stable Disease (iSD)	5 (29.4)
Progressive Disease (iPD)	3 (17.7)
Objective Response Rate (iORR)	9 (52.9)
Disease Control Rate (iDCR)	14 (82.4)



- Responses in all PD-L1 subgroups
- 6/9 iPR confirmed
- 12/17 (71 %) patients with target lesion decrease
- 5 / 7 iPR with NSQ; 4 / 10 with SQ

Patients by PD-L1 category	No. of Responses	No of pts
Low (< 1%)	1	3
Medium (1 - 49%)	3	6
High (≥ 50%)	3	4
Not evaluable	2	4
Overall	9	17

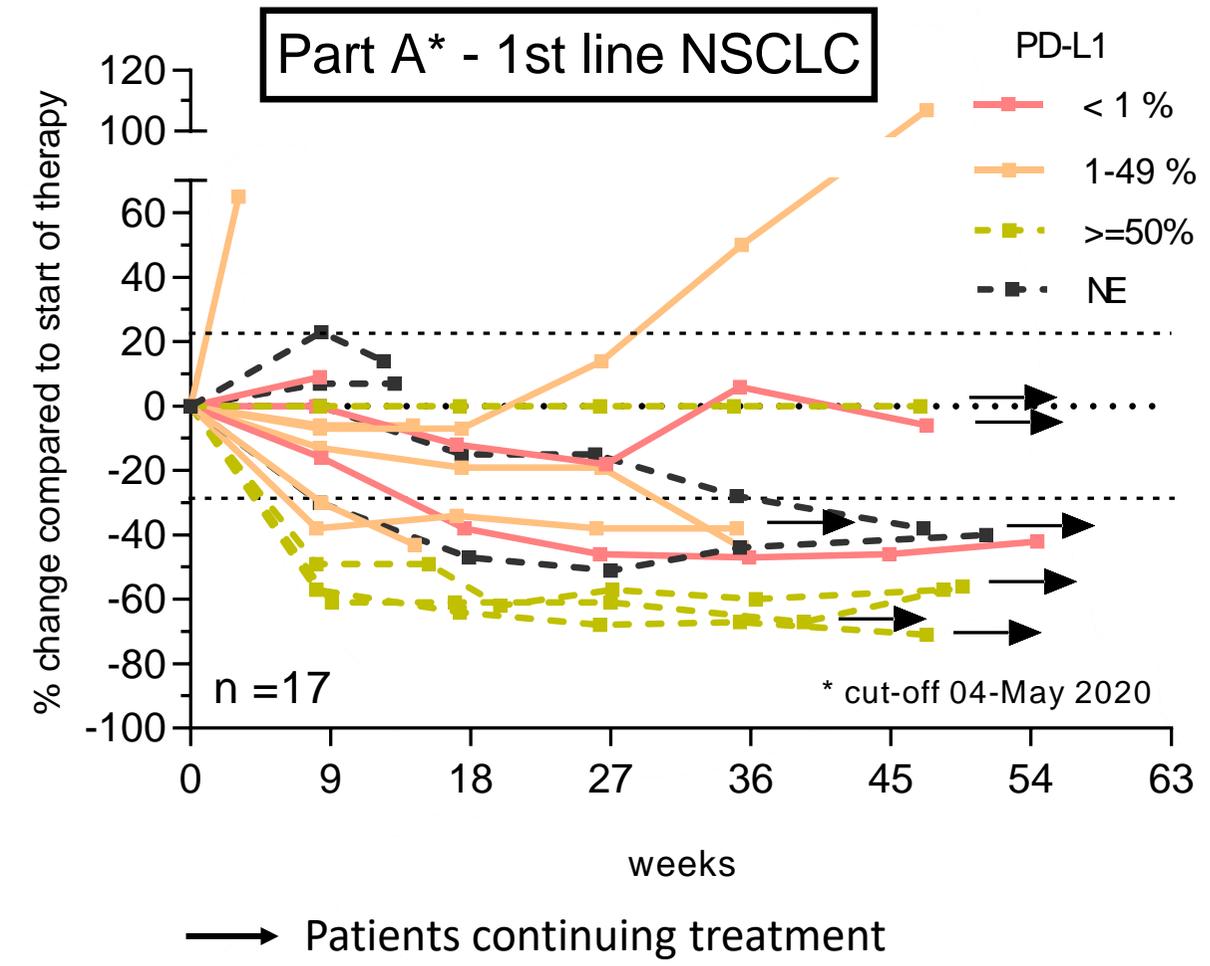


Efti: Clinical Development TACTI-002 - 1st line NSCLC (part A, stage 1)⁽¹⁾

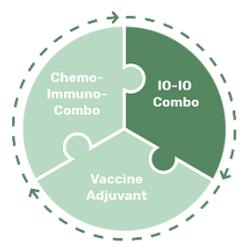


Spider plot

➤ At data cut-off⁽¹⁾ 7 pts (41 %) still under treatment → estimated median PFS of 9+ months



- 2 late responders at 8 / 11 months!
- 7 pts still under therapy → estimated median PFS of 9+ months



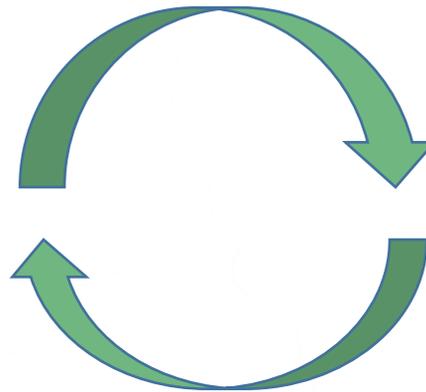
Positioning of efti in 1st line NSCLC

Selected SoCs 1st line NSCLC

Regimen	ORR ^{1,2}	Median DoR (months)	Median PFS (months) ^{1,2}	Median OS (months) ^{1,2}	Main downside/limitations ^{1,2}
Double Chemo	20-30%	4.9 - 7.7	5 - 6.5	10.7 - 13.9	Toxicity + low efficacy
Ipi + Nivo	33%	23.2 (>1%)	TBD	17.1	Toxicity, costs, low efficacy
Chemo + Pembro	48%	8 - 11.2	8.8	22.0	Costs, shorter DOR compared to IO alone, toxicity, nothing for 2nd line
Pembro alone ³	~20% (~17% in 1-49%)	20.2 (>1%)	~5-6	~16	low efficacy for < 50 % PD-L1 expression

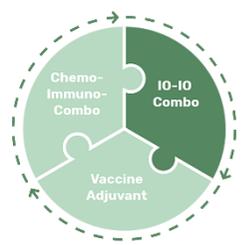
→ High unmet medical need in 1st line

Efti + pembro (stage 1, Part A):
53% iORR PD-L1 all-comer +
median PFS expected 9+ mts



✓ Higher ORR/PFS compared to Pembro alone without additional toxicity

Efti could address unmet needs in 1st line NSCLC and be a key differentiator for any anti-PD-1/PD-L1 therapy



HNSCC Introduction



High unmet medical need for well tolerated and efficacious treatment options

Epidemiology:

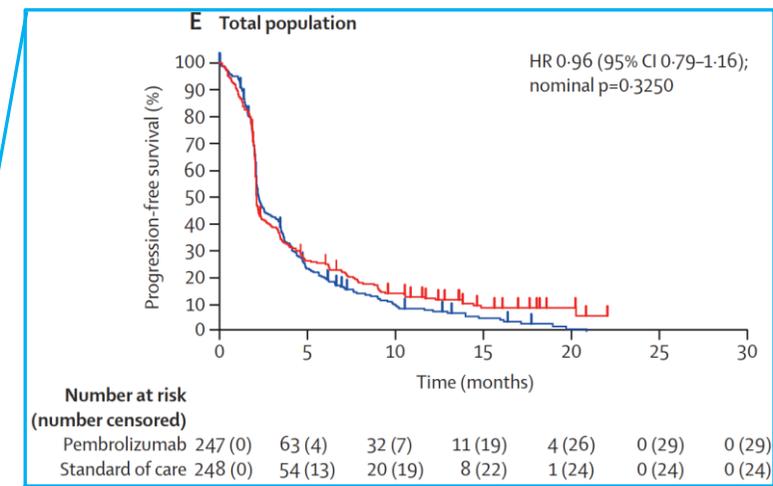
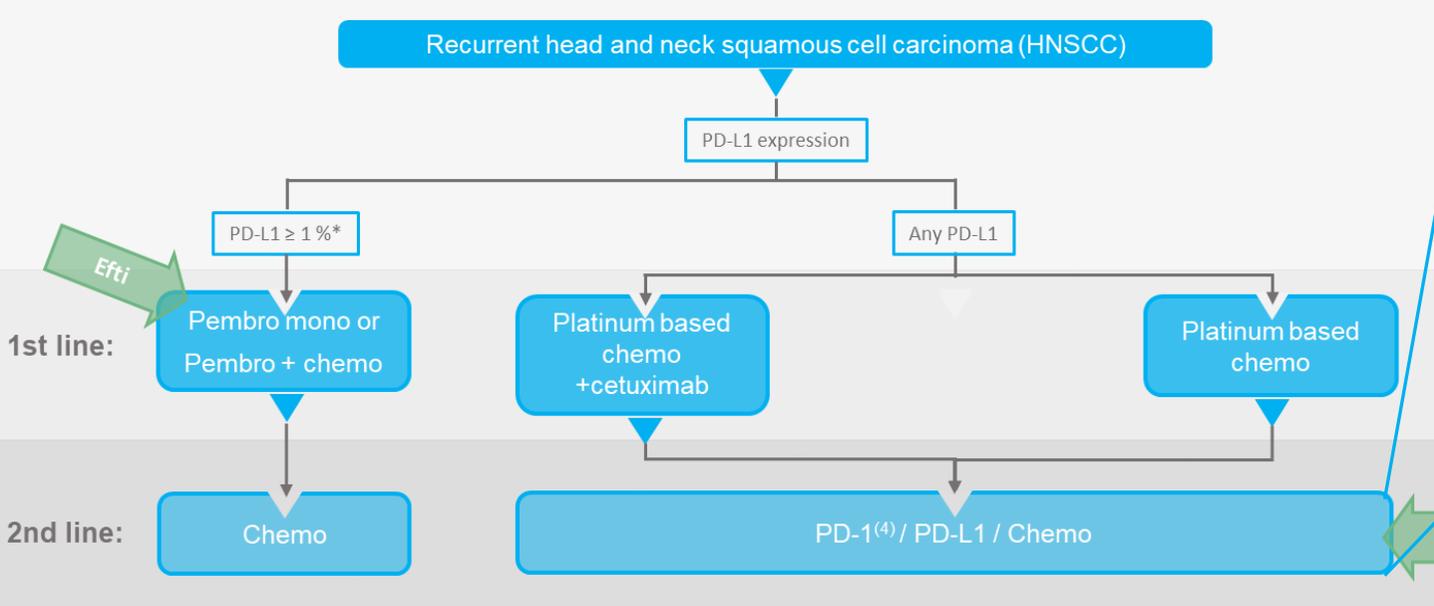
- More than 585,000 HNSCC diagnoses per annum worldwide⁽¹⁾
- Approximately 350,000 develop metastatic disease and are eligible to receive anti-PD-1 monotherapy or in combination with chemotherapy

Unmet need:

- ORR of 10-18 % and median PFS in 2nd line regardless of therapy ~ 2 months

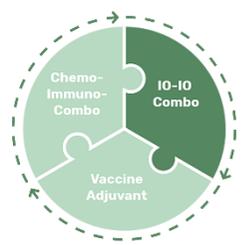
US\$ 2.8 billion

Estimated market size by 2026⁽³⁾



* - approval for Pembro plus chemo in 1st line regardless of PD-L1 expression by FDA

(1) F Bray et al.: Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA CANCER J CLIN 2018;68:394-424
 (2) Athanassios Argiris et al.: Evidence-Based Treatment Options in Recurrent and/or Metastatic Squamous Cell Carcinoma of the Head and Neck. Front. Oncol., 09 May 2017 | <https://doi.org/10.3389/fonc.2017.00072>
 (3) Estimation of Datamonitor Healthcare, Informa Pharma Intelligence for US, JP, EU (5): Head and neck cancer Forecast, December 2017 available from <https://pharmastore.informa.com/product/head-and-neck-cancer/>
 (4) FDA and EMA approval differences. Pembrolizumab approval by the European Medicines Agency is for patients whose tumours express PD-L1 with a ≥ 50% TPS, which differs from FDA approval.
 (5) Kaplan-Meier curve was sourced from EEW Cohen et al. KEYNOTE-040, The Lancet 2018, [http://dx.doi.org/10.1016/S0140-6736\(18\)31999-8](http://dx.doi.org/10.1016/S0140-6736(18)31999-8)



Efti: Clinical Development TACTI-002 – 2nd line HNSCC (part C, stage 1)⁽¹⁾



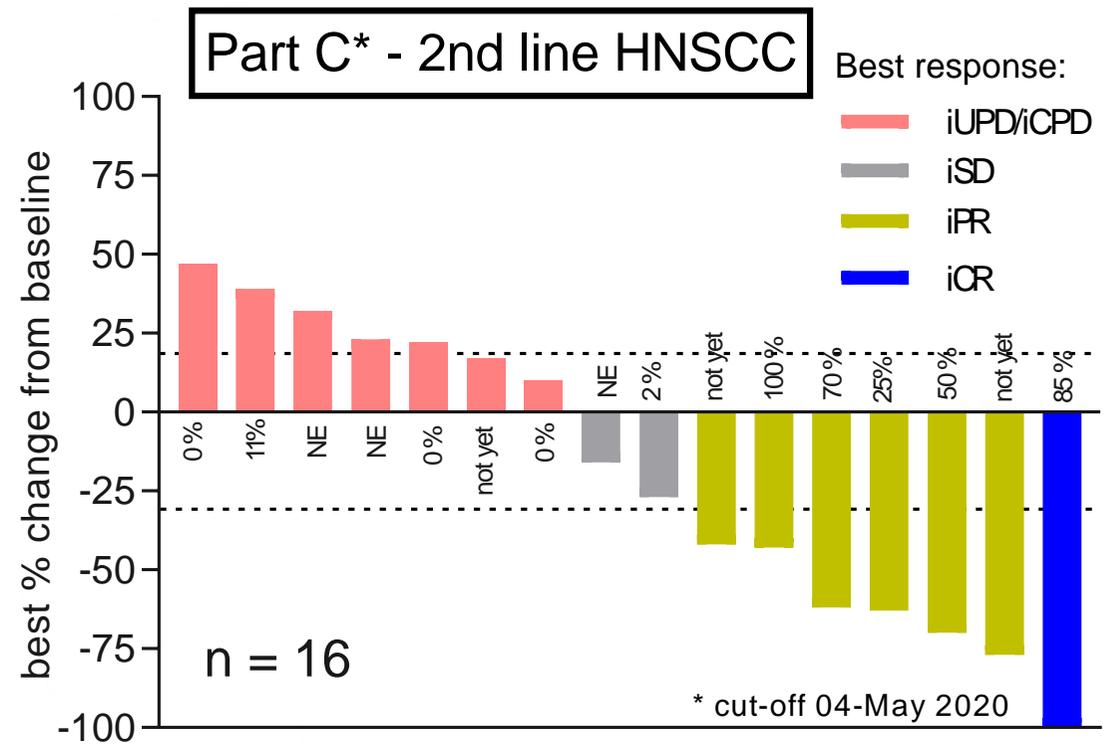
Responses and Waterfall plot

➤ *Initial iORR of 38.9 % in this PD-L1 all comer HNSCC 2nd line patients*

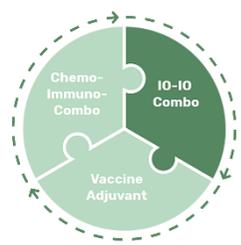
- Median Age of 66, mostly male (94 %)
- ECOG 1 in 47 %
- All pre-treated with platinum-based therapy
- Different subtypes

Tumor response - iBOR as per iRECIST	N (%) Total (N=18)
Complete Response (iCR)	1 (5.6)
Partial Response (iPR)	6 (33.3)
Stable Disease (iSD)	2 (11.1)
Progressive Disease (iPD)	7 (38.9)
Not evaluable*	2 (11.1)
Objective Response Rate (iORR)	7 (38.9)
Disease Control Rate (iDCR)	9 (50.0)

* - dropped out prior to first restaging



- 5/7 responses confirmed already
- 1 iCR

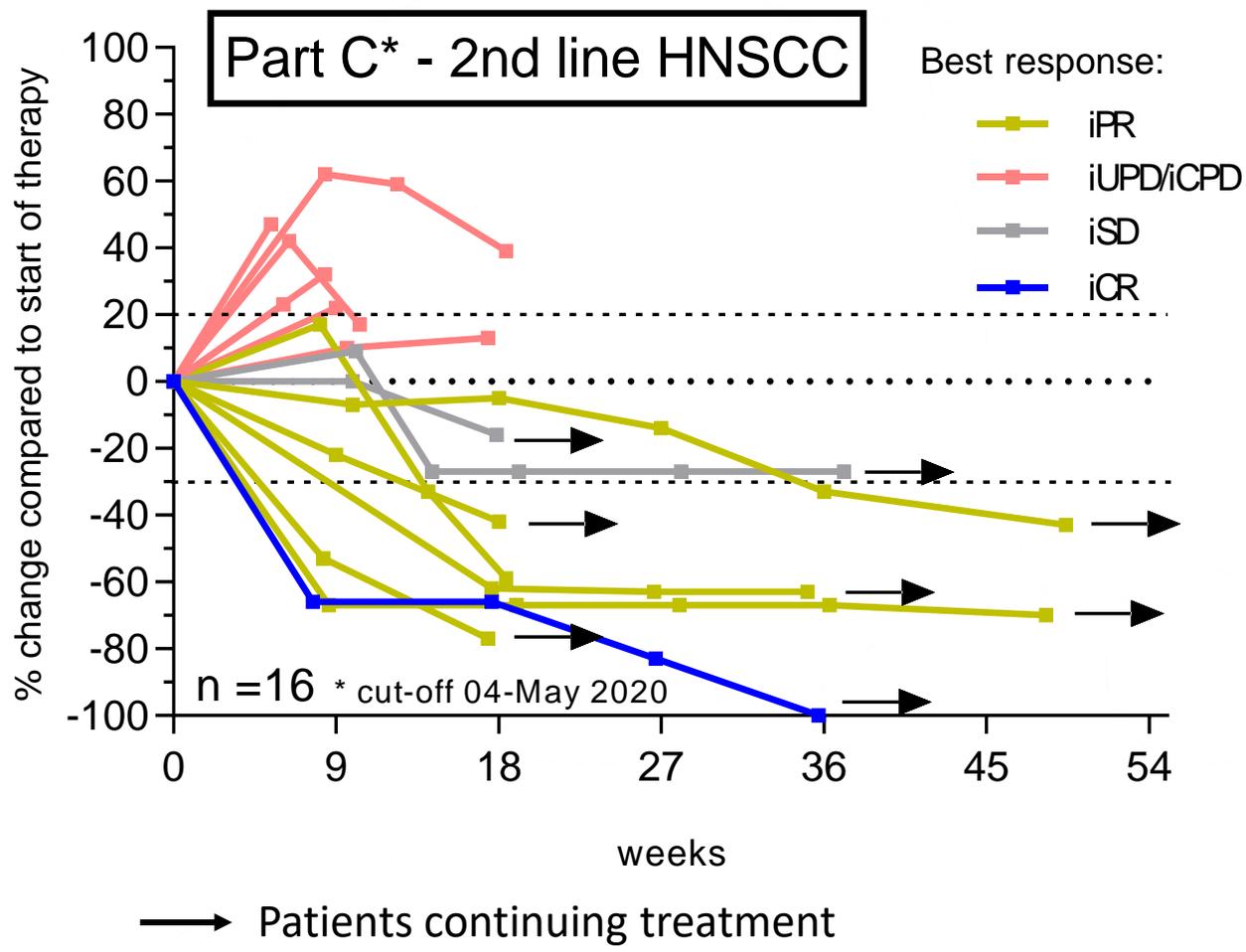


Efti: Clinical Development TACTI-002 – 2nd line HNSCC (part C, stage 1)

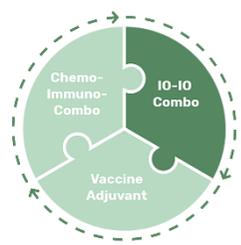


Spider plot

➤ At cut-off 8 pts (44 %) still under therapy - HNSCC 2nd line patients



- 1 iPR after pseudoprogression
- 1 iCR
- Responses getting deeper over time



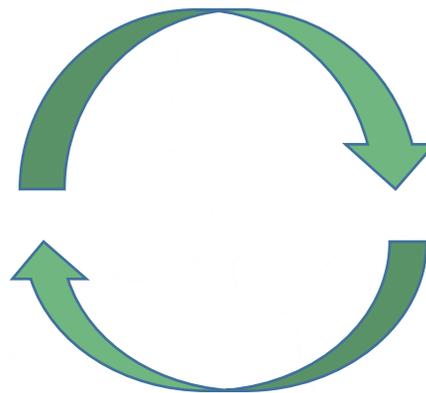
Positioning of efti on 2nd line HNSCC

Current SoC 2nd line HNSCC

Regimen	ORR ^(1,3)	Median DoR (months)	Median PFS (months) ^(1, 3)	PFS rate at 3 / 6 months ⁽²⁾	Median OS (months) ⁽¹⁾	Main downside/limitations ^(1,2,3)
Chemo	10.1%	5.0	2.3	45% / 20%	6.9	Not effective in >> 50% of patients
Pembro	14.6%	18.4	2.1	40% / 25%	8.4	Not effective in >> 50% of patients
Pembro ≥ 1% CPS	17.3%	18.4 (vs 9.6)	2.3	45% / 30%	8.7	Not effective in >> 50% of patients
Nivo	13.3%	9.7	2.0	37% / 21%	7.7	Not effective in >> 50% of patients

→ High unmet medical need in 2nd line HNSCC

Efti + pembro (stage 1, Part C):
39% iORR in PD-L1 all-comer
incl. 1 iCR (6 %); 50 % DCR



✓ Higher ORR compared to Pembro alone without additional toxicity

Efti could address unmet medical needs in 2nd line HNSCC offering a potential pathway to early regulatory interactions (registration)

Case Study: Pembro FDA approval in 2nd line HNSCC in 2016

Accelerated approval based on non-randomized phase II trials with ORR as primary endpoint

Based on: **KEYNOTE-012**:

- non-randomized, open-label, multi-cohort phase 1b study
- Primary EP:
 - ORR: 16% (95% CI: 11, 22), according to RECIST 1.1 assessed by BICR. (N=174)
 - Median PFS: 2.1 months
 - DoR*: median DoR not reached (range from 2.4+ to 27.7+ months), with 23 patients > 6 months

Supported by **KEYNOTE-055 (N=171)** interim data:

- open-label, non-randomized, Phase 2 (50 patients with >6 months of follow-up)
 - ORR: 18% acc. to RECIST 1.1
 - DoR*: estimated median of 6.9 months (range 3.0–8.31 months)

FDA condition: **KEYNOTE-040** required → failed to show significant improvement in median OS but label was not changed

* - The difference in the estimated median DoR between KEYNOTE-055 and KEYNOTE-012 may be attributable to the difference in duration of follow-up between the trials, with a maximum follow-up duration of 8.3 months for KEYNOTE-055 versus 30 months in KEYNOTE-012



Summary and Outlook

Summary

Experience efti plus anti-PD-1/PD-L1

- ✓ In total experience with 2 drugs (pembrolizumab, avelumab) in 4 different trials (6+ different indications) in up to \sum 145 pts

Trial / Indication	TACTI-002			TACTI-mel metastatic melanoma	INSIGHT-004 Advanced solid tumors
	Part A 1st line NSCLC	Part B 2nd line NSCLC	Part C 2nd line HNSCC		
Details Indication	PD-L1 all comer; PD-X naive; SQ+NSQ	PD-L1 all comer; <u>PD-X refractory</u>	PD-L1 all comer; PD-X naive	PD-L1 all comer; partly with suboptimal response to pembro alone	PD-L1 all comer
No of pts	N=36 (Stage 1: 17/17; Stage 2: 17/19)	N=36 (Stage 1: 19/23; Stage 2: 0/13; not yet opened)	N=37 (Stage 1: 18/18; Stage 2: 6/19)	N=24 (Part A: 18; Part B: 6)	N=12
Highlights ⁽¹⁾	PD-L1 all comer; 53% iORR; median PFS 9+ months; responses, excellent safety	Not yet	PD-L1 all comer; 39% iORR incl. 5% iCR	1 CR after PD on pembrolizumab 58% ORR*; 58% progression free at 6 months	4 PRs in partly ICI insensitive indications
Historical comparison ⁽²⁾	Pembro mono: ~20% ORR; 5-6 months median PFS	./.	Pembro mono: 15-18% ORR in > 1 % PD-L1	21-33% ORR; 34-46% progression free at 6 months	./.

Notes:

(1) Preliminary data, cut-off May 2020 (TACTI-002); October 2019 (TACTI-mel); Presented at ASCO 2020 Virtual in May 2020 (INSIGHT);

(2) Keynote-040 results: available from <https://www.esmo.org/newsroom/press-office/KEYNOTE-040-Evaluates-Pembrolizumab-in-Head-and-Neck-Cancer> and Internal calculation based on published data: Garon et al, N Engl J Med 2015; 372:2018-2028 available from: <https://www.nejm.org/doi/full/10.1056/NEJMoa1501824> and other corresponding clinical trials.

*C1D1 exploratory analysis

What could be next?

Landscape

eftilagimod alpha (MHC class II agonist)

- ✓ Results from TACTI-002 (in 2 indications) are very encouraging compared to what has been published so far
- ✓ Immunetep with its two different IO product candidates (one outlicensed to Novartis) is well positioned to potentially become “the next big thing” in oncology

Other agonists

TLR agonists: Limited mostly to i.t. administration, some encouraging results in combination with anti-PD-1

CD40 agonists: Early results in combination with anti-PD-1 look encouraging → PII ongoing (Apexigen Inc)

ICOS agonists: 26 % ORR in ≥2nd line HNSCC with pembro in phase I → ongoing phase II/III by GSK

Other antagonists

LAG-3 antagonists: BMS, Novartis and others have different large programs

TIGIT antagonists: Interesting data of tigarolumab (plus Atezolizumab) in 1st line NSCLC in phase II → ORR of 31 % in PD-L1 all comer → ongoing phase III by Roche

2020 & 2021 Outlook* and News Flow

Upcoming in 2020:

- **NSCLC 1st line** - more data from Stages 1 and 2 from TACTI-002 throughout 2020
- **HNSCC 2nd line** - initial data from Stages 1 and 2 from TACTI-002 throughout 2020
- **NSCLC 2nd line** - initial data from Stage 1 from TACTI-002 throughout 2020
- **MBC** - Overall Survival data from AIPAC: End of 2020
- **Combination with avelumab** - initial data from Phase I trial throughout 2020
- Regulatory progress
- Progress from partnered programs

Expected in 2021:

- Final data from **TACTI-002** part A and C
- Final data from **INSIGHT-004**
- Ongoing regulatory engagement
- Updates from IMP761
- Progress from partnered programs

*The actual timing of future data readouts may differ from expected timing shown above. These dates are provided on a calendar year basis.



Thank you!