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J.P. Morgan Conference – 10 January 2017

Cautionary statement regarding forward-looking statements

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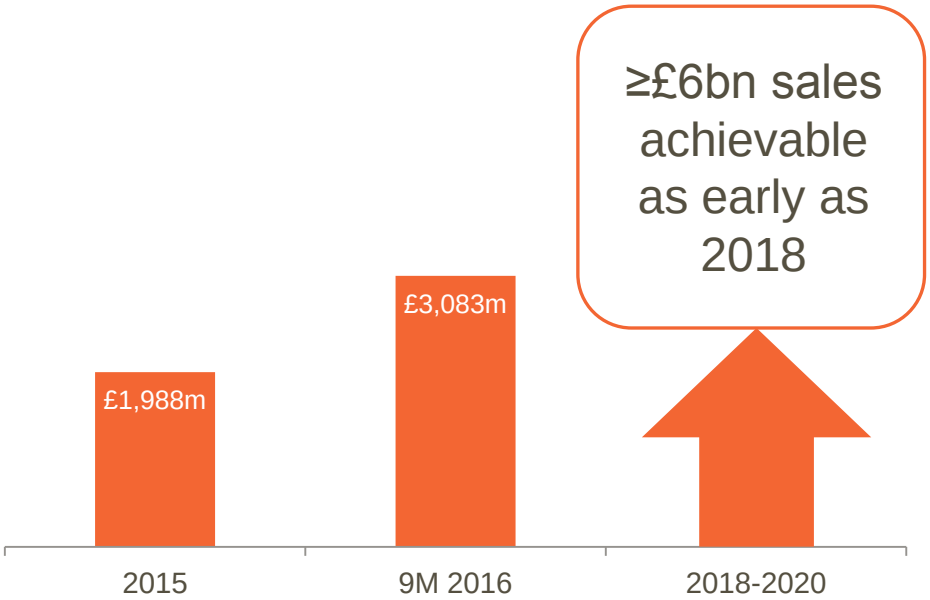
R&D Strategy: Reliable fill & flow with greater novelty and improved return on investment

Accelerate Discovery output	Focus where science is innovative	Improve balance internal vs external	Reduce fixed cost and improve ROI
• Now have 30 DPUs, of which two thirds are from the original 2009 set. Average 20% turnover every 3 year cycle • 65% of NMEs* in the clinic were either discovered or worked on by the DPUs • Average of 60-65 publications annually in world class journals across pharma and vaccines	• 80% of NMEs*, biologicals and vaccines have potential to be 1st in class • Competitive advantage through epigenetics, cell & gene technology, adjuvants, self amplifying RNA, inhaled technology, chimp adenovector	• 60% of NMEs* in the clinic are home-grown, 40% partnered or in-licensed • >1,500 collaborations inclusive of academic, public-private partnerships, biotech and pharma	• 20% faster study execution times^ • Pharma R&D headcount reduced from 12,000 to 8,500 since 2008, reduced to two global pharma R&D hubs • Balance discovery and development R&D spend (pharma split ~40% Discovery; ~60% Development)

*NMEs: Phase I – III/submitted, per pipeline chart; ^ comparison vs peers based on CMR data.

R&D driving growth and returns to shareholders

Annual sales from 11 new products*



25% of pharmaceutical sales from new pharma products+ in Q3 2016

2016 pipeline progress:

Filed 4 assets for regulatory approval

- Closed triple
- Shingrix
- Benlysta SC
- sirukumab RA

Started 5 Phase III studies

Started 5 Phase II studies

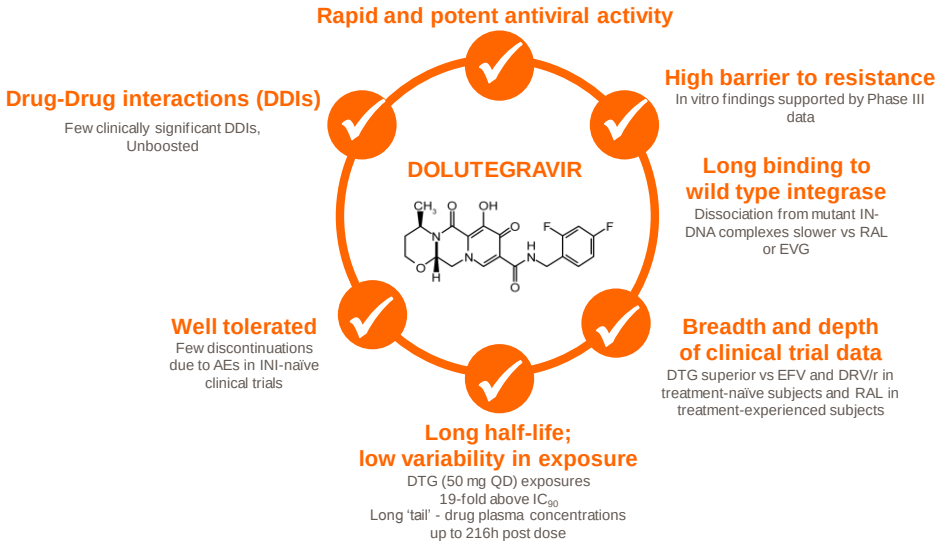
*11 new products defined as: Breo, Anoro, Incruse, Arnuity, Nucala, Tanzeum, Tivicay, Triumeq, Menveo, Bexsero and Shingrix. All expectations and targets regarding future performance should be read together with the "Assumptions related to 2016-2020 outlook" on page 35 of the Group's third quarter earnings release dated 26 October 2016.

+New products refers to pharma only excluding vaccines

R&D Strategy: focused on 6 therapy areas

Amongst integrase inhibitors, dolutegravir stands out

Unique product characteristics



Unprecedented and unmatched clinical trial results in HIV

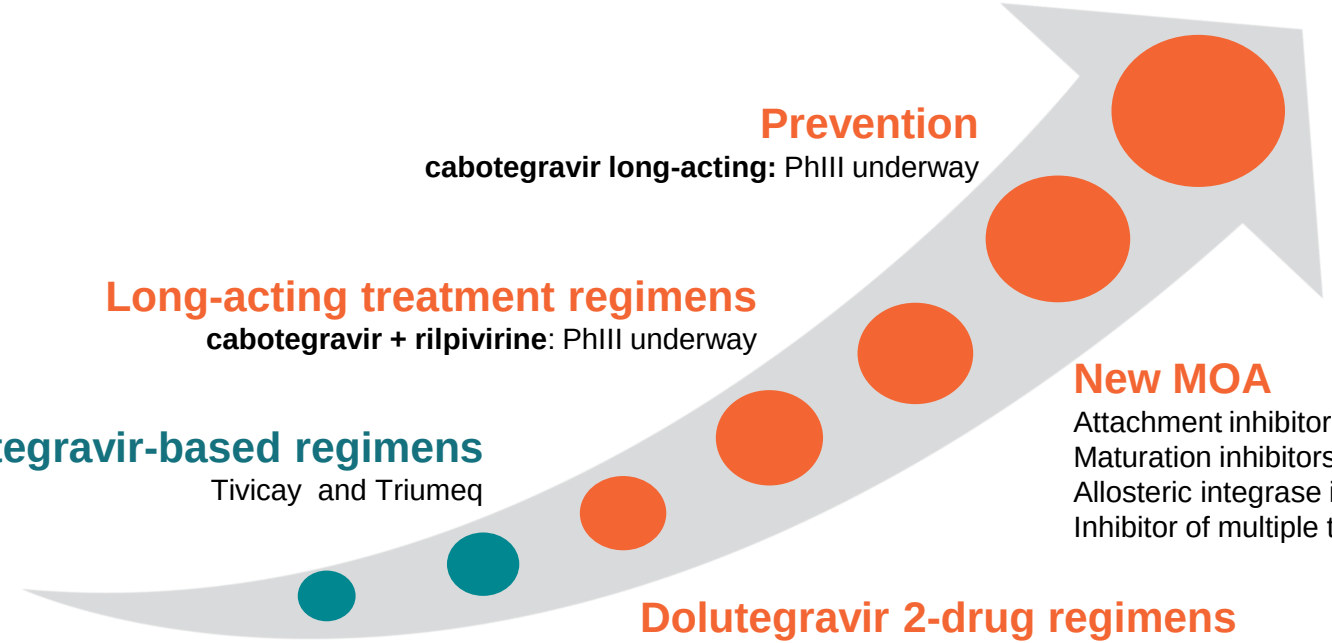
Vs. efavirenz	Vs. raltegravir	Vs. darunavir	Vs. atazanavir
SUPERIOR (naive) SINGLE	SUPERIOR (experienced) SAILING; NON INFERIOR (naive) SPRING 2	SUPERIOR (naive) FLAMINGO	SUPERIOR (women/naive) ARIA

SINGLE, FLAMINGO, SPRING 2, SAILING and ARIA were non-inferiority studies with a pre-specified analysis for superiority. Chart shows primary endpoint outcomes

Positive headline results from dolutegravir + rilpivirine two drug regimen Phase III study, supports filing in 2017

References: 1. Min S, et al. AIDS 2011;25:1737–45, 2. Walmsley S, et al. N Engl J Med 2013;369:1807–18, 3. Clotet B, et al. Lancet 2014;383:2222–31, 4. Cahn P, et al. Lancet 2013;382:700–8, 5. Raffi F, et al. Lancet,013;381:735–43, 6. Kobayashi M, et al. Antiviral Research 2008;80;213–22, 7. Kobayashi M, et al. Antimicrob Agents Chem 2011;55(20):813-821, 8. Hightower KE, et al. Antimicrob Agents Chemother 2011;5:4552–9, 9. van Lunzen J, et al. IAS 2011. Abstract TUAB0102, 10. van Lunzen J, et al. Lancet Infect Dis 2012;12:111–8, 11. Elliot E, et al. IWCPHIV 2015. Abstract 13

Innovative pipeline addressing unmet patient needs



Search for remission and cure

Prevention
cabotegravir long-acting: PhIII underway

Long-acting treatment regimens
cabotegravir + rilpivirine: PhIII underway

New MOA
Attachment inhibitor
Maturation inhibitors
Allosteric integrase inhibitors*
Inhibitor of multiple targets*

Dolutegravir-based regimens
Tivicay and Triumeq

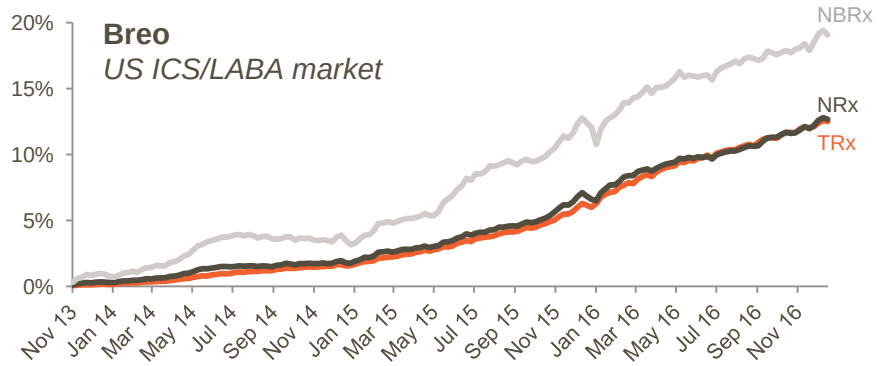
Dolutegravir 2-drug regimens
dolutegravir + rilpivirine: PhIII positive readout supports filing in 2017
dolutegravir + lamivudine: PhIII ongoing

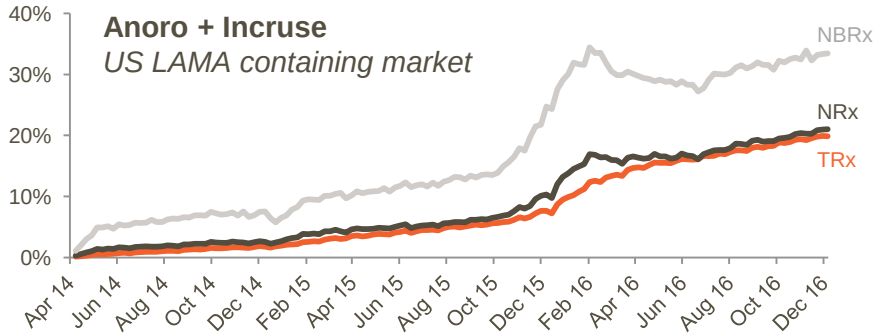
Legacy ARV drug portfolio
abacavir/lamivudine,
maraviroc & others

*Denotes preclinical asset
Ongoing studies: DTG+3TC GEMINI studies started Aug 2016; CAB+RPV ATLAS and FLAIR studies started Nov 2016; CAB monotherapy HPTN083 study started Dec 2016

Portfolio of once-a-day, easy-to-use Ellipta inhalers

Strong commercial performance; closed triple filed





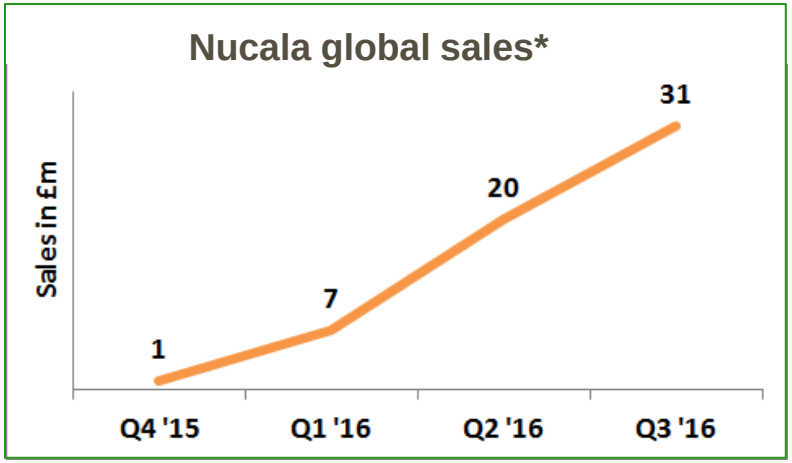
Closed triple:

- Filed in US and EU for COPD in Q4 2016
  - 10 month review expected in US
- FULFIL data demonstrated superiority vs Symbicort in lung function presented at ERS Sept 2016
- IMPACT COPD exacerbation data expected H2 2017
- Started Phase III for asthma Q4 2016

Completes Ellipta inhaler portfolio

Nucala launch off to a strong start

Additional data and indications expected to drive further growth



Launched in US, Europe, Japan

US J code available Jan 2017

Pipeline update:

- COSMOS study† on positive long term safety and efficacy of Nucala presented at AAAAI
- JACI publication^ showing hospitalisations and ER visits halved with Nucala
- MUSCA study showing QoL and lung function to be presented at AAAAI, March 2017
- Phase III COPD data expected 2017
- In development for:
  - Eosinophilic granulomatosis with polyangiitis (EGPA)
  - Atopic dermatitis
  - Hyper eosinophilic syndrome (HES)
  - Nasal polyposis

*Source: GSK company results

†Long-term Efficacy and Safety of Mepolizumab in Patients With Severe Eosinophilic Asthma: A Multi-center, Open-label, Phase IIIb Study Njira Lugogo, MD; Christian Domingo, MD; Pascal Chanez, MD, PhD; Richard Leigh, MBChB; Martyn J. Gilson, MSc; Robert G.Price, MSc; Steven W. Yancey, MSc; and Hector G. Ortega, MD. Clinical Therapeutics/Volume 38, Number 9, 2016

^Meta-analysis of asthma-related hospitalization in mepolizumab studies of severe eosinophilic asthma. Yancey S, Ortega H, Keene O, Mayer B, Gunsoy N, Brightling C, Bleecker ER, Haldar P, Pavord I. Journal of Allergy and Clinical Immunology, 2016

Mepolizumab data in eosinophilic lung disease (EGPA)

Phase III data supports 2017 filing

Co-primary endpoints

	mepolizumab	placebo	p value
Accrued duration of remission	19/68 (28%)	2/68 (3%)	p<0.001
Remission at wk 36 and 48	22/68 (32%)	2/68 (3%)	p<0.001

Secondary endpoints

	mepolizumab	placebo	p value
Average OCS dose during last 4 wks ≤ 4mg/day	30/68 (44%)	5/68 (7%)	p<0.001
Remission within first 24 wks and maintained to study end	13/68 (19%)	1/68 (1%)	p=0.007
Time to first EGPA relapse	Hazard ratio = 0.32; 95% CI: (0.21, 0.50)		p<0.001

Full results from the study, including data from the secondary endpoints, will be submitted for presentation at an upcoming scientific congress and for publication in a peer-reviewed journal.
The pivotal phase III study, MEA115921, was a randomised, double-blind study with the purpose to investigate the efficacy and safety of mepolizumab 300mg (administered subcutaneously every 4 weeks) compared with placebo over a 52-week study treatment period in 136 patients with relapsing or refractory EGPA receiving standard of care therapy including background corticosteroid therapy with or without immunosuppressive therapy.

Next generation respiratory medicines

Subdivision of severe asthma patients

Phenotypically distinct patients: anti-IL33r – PhIIa start 2017

Extended pharmacology: anti-IL5 mAb – PhIII start 2018

Disease modification in COPD

Inhaled PI3Kδ inhibitor – PhIIb start 2017

mepolizumab – file 2017

danirixin – PhIIb start 2017

Potential in additional disease areas

IPF: Inhaled αvβ6 inhibitor – PhIIa start 2018

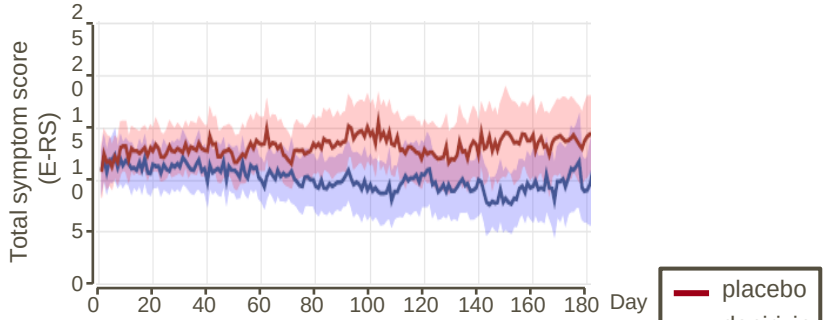
ALI: TNFR1 antagonist dAb – PhII data 2017

IPF = idiopathic pulmonary fibrosis ; ALI = acute lung injury

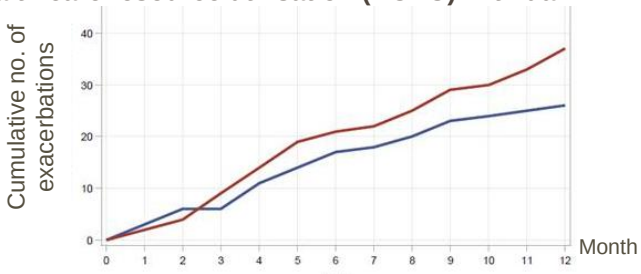
Pipeline progression in two promising new mechanisms of action

Oral danirixin

Real-time data demonstrate improvement of symptoms with danirixin in symptomatic COPD (frequent exacerbators)



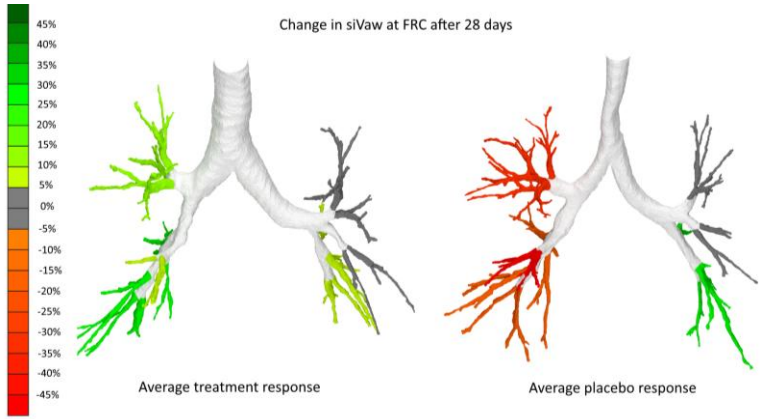
Trend for reduction in COPD exacerbations requiring health care resource utilisation (HCRU) with danirixin*



GSK, data on file (study 200163). *Interim PhII data in symptomatic COPD

Inhaled PI3Kδ inhibitor

Directionality of neutrophil migration is aberrant in COPD patients and corrected by PI3K inhibition - *in vitro*

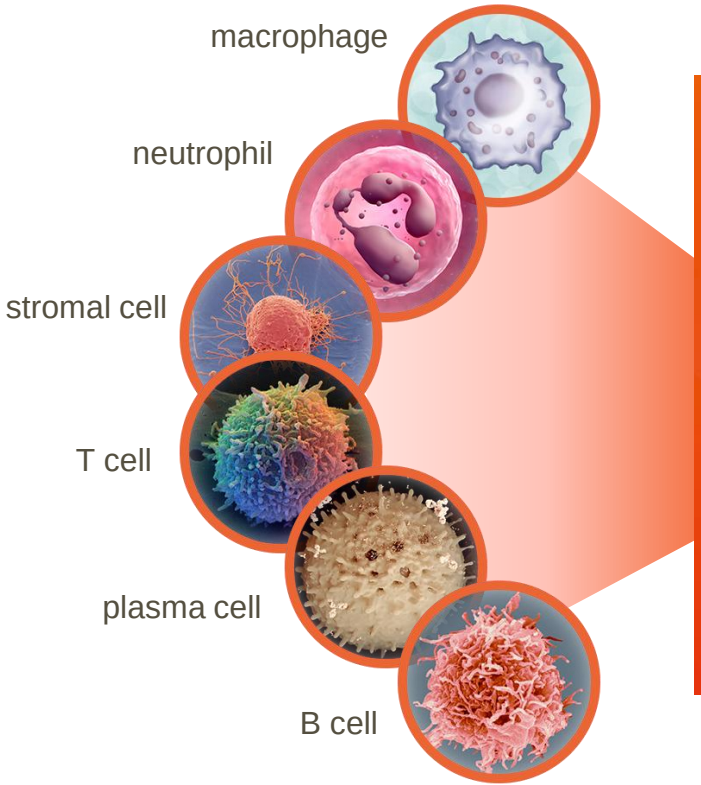


Individual patient treated with GSK2269557 on top of SoC

Individual patient treated with placebo on top of SoC

Sapey et al, AJRCCM 2011; 183: 1176
Burrowes et al. Interface Focus 2013;3:20120057 (Fluidda)

Deep pipeline in Immuno-Inflammation



GSK Pipeline

Targeted Biologicals

- Benlysta
- sirukumab
- Anti-GM-CSF
- Anti-IL-7
- Anti-LAG3
- Anti-CCL20
- Anti-OSM

Targeted Small Molecules

- RIP1
- I-BET

Targeting Resistant Disease

- RIP1
- I-BET
- Anti-IL-7
- Anti-LAG3
- Anti-CCL20
- Anti-OSM

Early Intervention & Remission Induction

- Anti-GM-CSF
- RIP1
- Anti-CCL20
- Anti-LAG3

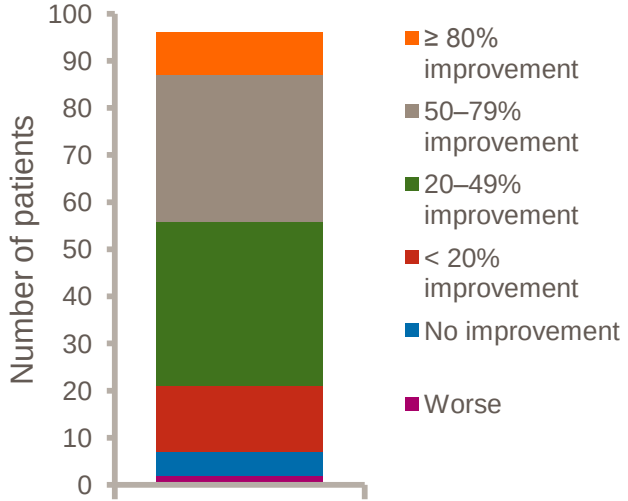
Benlysta: extensive ongoing development

The only medicine approved to treat SLE in over 50 years

- Only medicine to treat SLE* to have succeeded in PhIII
  - Three other medicines have recently failed
- 4th consecutive positive pivotal study
  - Improvement in time to first severe flare
  - Trend for reduction in corticosteroid use
  - Further filings Japan (Dec 2016); China (2017)
- Multiple ongoing studies, including subgroups in SLE, lupus nephritis, long-term remission pre-treatment with rituximab and other indications

Sub-cutaneous formulation filed in US & EU Sept 2016

Real world studies reinforce effectiveness through strong patient response



Real world studies observed an overall clinical improvement of at least 20% in 78% of patients

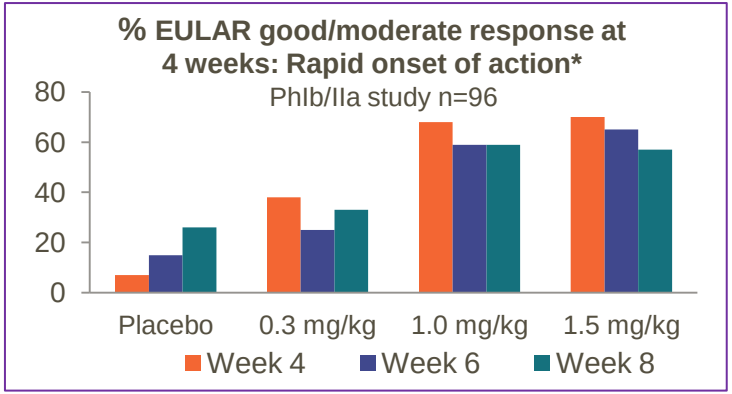
Schwarting A, *et al. Rheumatol Ther* 2016

*SLE = systemic lupus erythematosus

GSK'165: potential first in class anti-GM-CSF

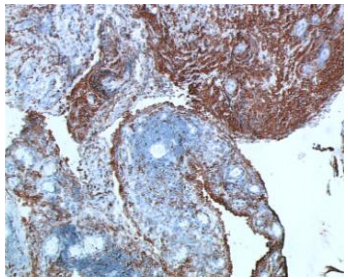
Granulocyte-macrophage colony stimulating factor (GM-CSF) for RA and hand OA

- Activated macrophages abundantly expressed in early RA synovial tissue
- Reduction in macrophage infiltration correlates with improvement in disease activity scores[1,2]
- Important in macrophage production and infiltration in the tissues
- Macrophage related markers may facilitate a precision medicine approach
- Potential to target a number of immuno-inflammatory diseases



'165 potential as first in class aGM-CSF

- Phase IIb study ongoing in RA
- Global programme, including US
- High bar futility hurdle achieved
- Data expected H2 2017

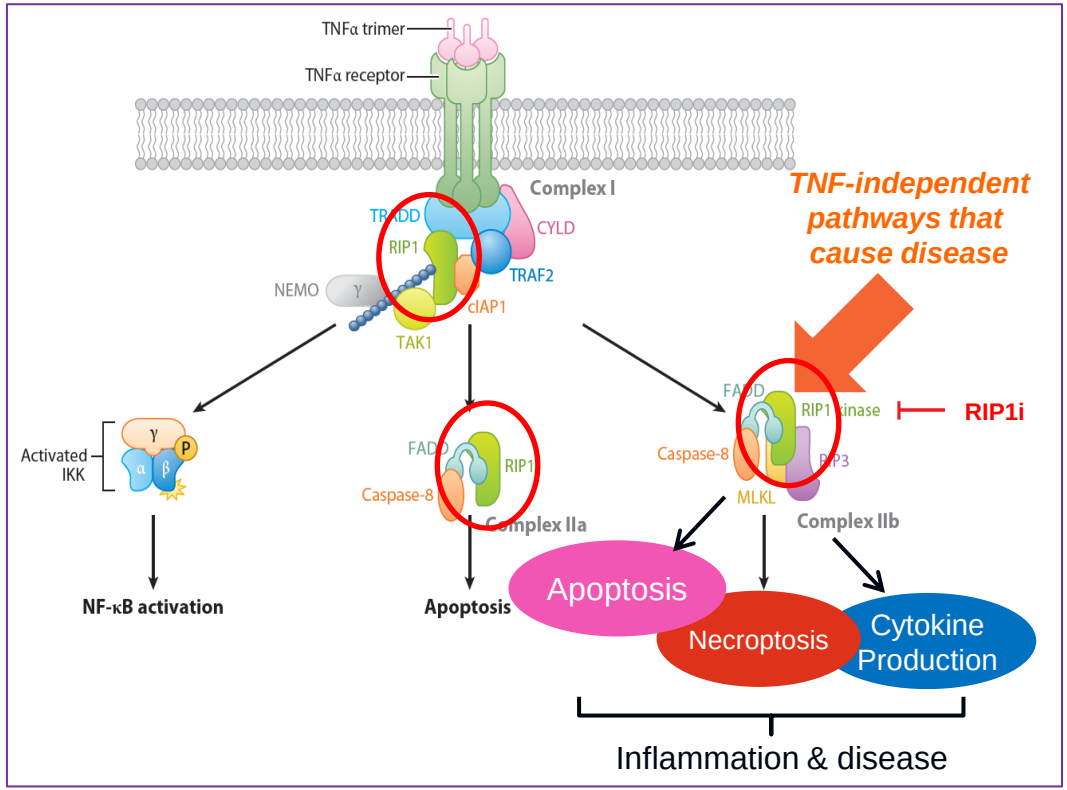


Further studies for hand osteoarthritis underway, Phase II data expected H2 2017

[1] Boumans MJ, *et al*. Arthritis Rheum. 2011;63:3187-94.
[2] Bresnihan B, *et al*. J Rheumatol 2009;36:1800-2.

*Behrens, *et al*. Ann Rheum Dis. 2015;74:1058-64

GSK'772: oral anti-inflammatory RIP-1 kinase inhibitor with potential for psoriasis, RA and ulcerative colitis

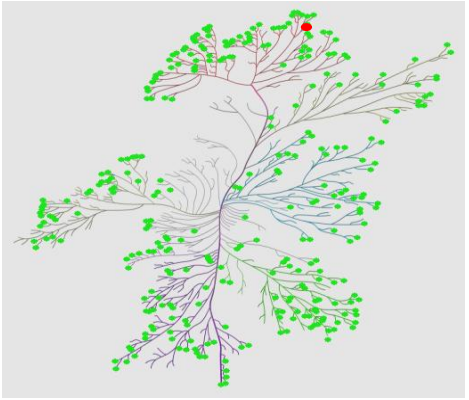


Derived from Christofferson et al., Ann.Rev. Physiol. (2014) 76:129

PhIIa readouts 2017/18:

- Psoriasis
- RA

Kinome plot



GSK2982772 - most selective ATP competitive kinase inhibitor to advance into man

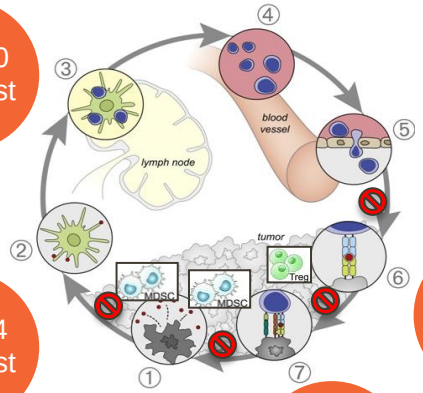
ATP = adenosine triphosphate

Multiple pipeline opportunities in oncology

Immuno-Oncology

OX-40 Agonist

PD1 combination start Q3'16



TLR-4 Agonist

Ph I start by Q1'17

BCMA ADC

Clinical POC Q416
Phase 1 ORR ~67% in multiple myeloma

NY-ESO-1 TCR-Ts

50% ORR in sarcoma; study start in NSCLC, others

ICOS Agonist

Ph I start Q2'16

Epigenetics

EZH2 Inhibitor

MTD 2016

PRMT5 Inhibitor

Ph I start Q2'16

BET Inhibitor

Combo study start & single agent efficacy data across indications 2017

LSD1 Inhibitor

RP2D in SCLC 2016

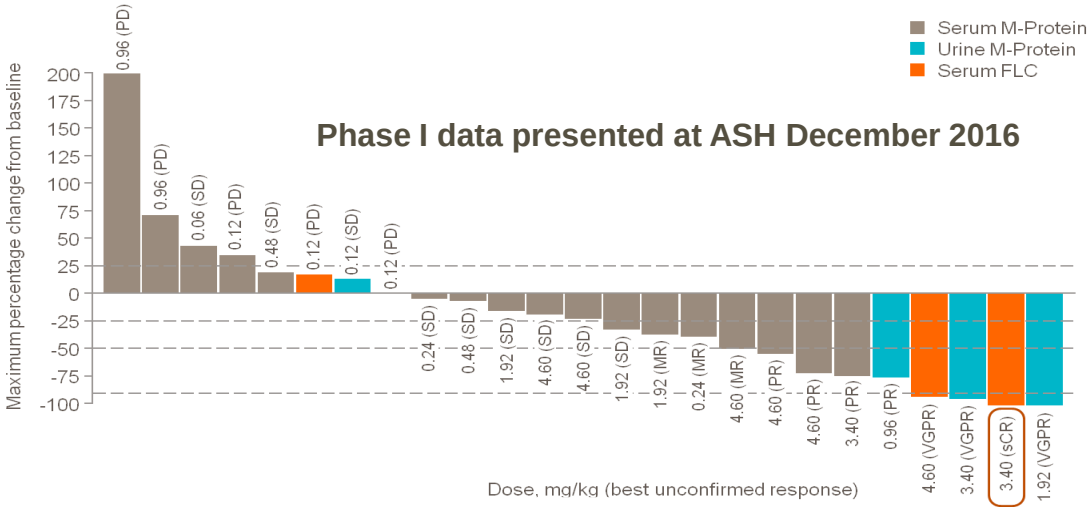
GSK has an option on the NY-ESO- 1 programme through clinical proof of concept and, if exercised, would assume full responsibility for the programme.

MTD = max. tolerated dose POC = proof of concept, RP2D= recommended Phase II dose

GSK'916: Anti-BCMA-ADC, potential first-in-class next generation therapy for multiple myeloma

- **Cell Maturation Antigen**
- **Antibody Drug Conjugate (ADC) with MMAF (auristatin derivative)**
- **High-expression target in multiple myeloma**
- **Immunogenic cell death inducer**
- **Excellent Phase I efficacy in tough to treat population: ~67% at ≥ Phase II dose**

All doses: ORR = 8/30* (27%; 95% CI: 12.3%, 45.9%)
At ≥Ph2 dose 3.4 mg/kg: ORR= 6/9 (**66.7**%; 95% CI: 0.29, 0.92%)



Safety observations:
Thrombocytopenia, transient
Corneal toxicity: dry eye, blurry vision, reversible

MMAF = Monomethyl auristatin F ; ASH: American Society of Hematology.
*30 patients have been enrolled and included in the denominator of Part 1; only 25 response are shown in the graph as some patients did not have response assessment (missing), or did not have data entered at the time of data cut.

Building capabilities in diseases with clear unmet need

Cell and Gene Therapy

Strimvelis for ADA SCID – first approved ex-vivo stem cell gene therapy

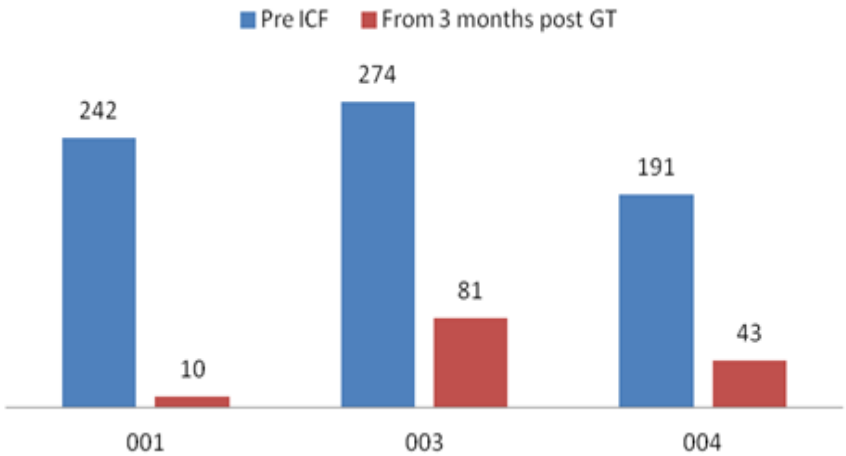
Pipeline of diseases and approaches:

- MLD
- WAS
- Beta thalassaemia**
- NY ESO
- Next gen CAR-T
- TCR

Preliminary data from ongoing study in beta thalassaemia**

- All patients severe genotype, β0/β+ (Cod39 / IVS1-110)
- Patients of this genotype make virtually no endogenous beta-globin and require frequent transfusions
- Reduction in beta-globin transfusions of 96%, 70% and 77% observed at data cut off (Nov 2016)

Beta-globin transfusion requirement
Yearly ml/kg for each patient



Based on follow up of 1.1 year (patient 001), 6 months (patient 003) and 9 months (patient 004). ICF = Informed Consent Form. GT = gene therapy

**GSK has an exclusive option to in-license the Beta-Thal program from the Hospital San Raffaele (OSR) and the Telethon Foundation (Telethon); Data provided with consent of OSR/Telethon.

Intense period of R&D activity with multiple milestones

Expected Phase III starts by end 2018 include:

daprodustat for anemia (started Q4 16)
cabotegravir + rilpivirine in HIV treatment (started Q4 16)
closed triple asthma (started Q4 16)
cabotegravir for prophylaxis in HIV (started Q4 16)
Long-acting anti-IL5 for severe asthma
Anti-GM-CSF in early/established RA and hand OA
NY ESO-1 in sarcoma
OX40 in a solid tumour

Expected filings by end 2018 include:

dolutegravir + rilpivirine for HIV treatment
dolutegravir + lamivudine for HIV treatment
mepolizumab for EGPA, HES and nasal polyps
Closed triple exacerbation indication
Closed triple for asthma
'728 (TTR) for FAP
MLD (Metachromatic leukodystrophy)

Important clinical readouts by end 2018 inc:

Between 20-30 assets inc oncology & immuno-inflam.

mepolizumab: Phase III for EGPA (Q4 16)
Phase III for COPD
Phase III for HES and nasal polyps

Closed triple: Phase III COPD exacerbations
Phase III asthma

dolutegravir: Phase III dual combo with rilpivirine (Q4 16)
Phase III dual combo with lamivudine

Attachment inhibitor in HIV Phase III
MLD (Metachromatic leukodystrophy)
Shingrix: immunocompromised and revaccination

Expected approvals in 2017:

Shingrix
Closed triple for COPD
Benlysta SC
sirukumab for RA