



# TAKEDA GASTROENTEROLOGY

A GLOBAL LEADER IN GASTROENTEROLOGY

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## WE ARE A LEADING GI COMPANY

### GASTROENTEROLOGY

#### OUR VISION

Restore **Life to Living** for patients suffering with GI and liver diseases

#### OUR MISSION

Deliver **innovative, life-changing therapeutics** for patients with GI and liver diseases



# OUR STRATEGY EXPANDS THE PORTFOLIO ACROSS CORE DISEASE AREAS SUPPORTED BY PLATFORM TECHNOLOGIES

## IBD

- Build upon success of Entyvio with new formulations
- Expand treatment options with Alofisel

## Motility disorders

- Focus on select high unmet medical need areas including gastroparesis and enteral feeding intolerance



## Celiac disease

- Advance approaches for the prevention of immune responses to gluten

## Liver diseases

- Target early-stage investments in liver fibrosis

## Luminal platforms

- Accelerate microbiome investments
- Invest in selective drug delivery technologies

Acid related diseases franchise will continued to be supported, but new pipeline investment will be deprioritized relative to above disease areas.

Abbreviations: IBD, Inflammatory Bowel Disease e.g., Ulcerative Colitis, Crohn's disease

# WE ARE EXECUTING ON OUR STRATEGY THROUGH A RICH, DIVERSIFIED PIPELINE FUELED BY STRONG EXTERNAL PARTNERSHIPS

	Discovery/preclinical*	Phase 1	Phase 2	Phase 3	Approval**
IBD	<ul style="list-style-type: none"> <li>Multiple targets in IBD</li> <li>BEACON BILIBERON Multiple targets Small molecule</li> <li>FINCH THERAPEUTICS IBD Microbial consortia</li> <li>ENGENE Multiple targets Monoclonal antibody</li> <li>ENTYVIO R&amp;D partnership</li> </ul>				<ul style="list-style-type: none"> <li>ENTYVIO SC Needle-free</li> <li>ENTYVIO UC/CD, JP, China SC UC/CD</li> <li>GvHD prophylaxis</li> <li>Monoclonal antibody</li> </ul>
		<ul style="list-style-type: none"> <li>COUR TIMP-Gliadin Celiac disease Biologic</li> <li>Kuma062 Celiac disease Biologic</li> </ul>			<ul style="list-style-type: none"> <li>Alofisel</li> <li>Perianal Fistulas, US</li> <li>Stem cell therapy</li> </ul>
				<ul style="list-style-type: none"> <li>TAK-906 Gastroparesis Small molecule</li> <li>Theravance Biopharma TAK-954 Enteral Feeding Intolerance Small molecule</li> </ul>	<ul style="list-style-type: none"> <li>AMITIZA EM registration</li> <li>Pediatric Constipation</li> <li>IBS-C, CIC, OIC</li> <li>Small molecule</li> </ul>
					<ul style="list-style-type: none"> <li>AMITIZA EM registration</li> <li>Pediatric Constipation</li> <li>IBS-C, CIC, OIC</li> <li>Small molecule</li> </ul>
Celiac					
GI Motility	<ul style="list-style-type: none"> <li>Multiple targets in Constipation, Nausea &amp; Vomiting</li> <li>enterome Multiple targets Small molecule and biologics</li> <li>HIFIBIO Multiple targets Monoclonal antibody</li> <li>AMALUNAS Anti-fibrotics in NASH Biologic</li> <li>HEMOHEAT R&amp;D Partnership</li> <li>Ambys Regenerative liver diseases Cell and Gene therapy</li> </ul>				
Liver	<ul style="list-style-type: none"> <li>Multiple targets in anti-fibrosis</li> <li>NUBIYOTA Microbial consortia</li> </ul>				
Acid disease/ Other		<ul style="list-style-type: none"> <li>SAMSUNG BIOEPIX TAK-671 Acute pancreatitis Biologic</li> </ul>			<ul style="list-style-type: none"> <li>TAKECAB PPI Partial Responders Acid disorders</li> <li>NE Asia, ASA FDC</li> <li>Small molecule</li> </ul>

External collaboration Platform

Pipeline as of September 23, 2018

Abbreviations: IBD, Inflammatory Bowel Disease e.g., Ulcerative Colitis (UC), Crohn's disease (CD); SC, Subcutaneous; PPI, Proton pump inhibitor

\* Assets shown in discovery/preclinical and Phases 1-3 explicitly refer to new molecular entities

\*\* Some with active development seeking new or supplemental indications, or approvals in new territories

# WE ARE BUILDING ON THE SUCCESS OF ENTYVIO TO ADDRESS CONTINUED UNMET NEED IN IBD PATIENTS

- 1 Geographic expansion
- 2 New formulations
- 3 Expanded patient populations
- 4 New evidence generation

**Entyvio**  
vedolizumab *First and only* biologic specifically targeting gut inflammation

**ALOFISEL** *First-in-class mesenchymal stem cell therapy for fistulizing Crohn's disease*

Abbreviations: IBD, Inflammatory Bowel Disease e.g., Ulcerative Colitis, Crohn's disease

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# WE ARE CONTINUOUSLY IMPROVING THE VALUE OF ENTYVIO FOR PATIENTS

## GEOGRAPHIC EXPANSION

- Japan NDA approval for UC
- Potential China approval in **FY2020\***
- Approved in **58 countries\*\***
- Nearly **90,000\*\*\*** IBD patients treated

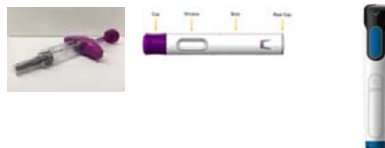


\* On Aug 8th 2018, a total of 48 products marketed outside of China were selected by the CDE based on urgent medical needs, companies are encouraged to apply for NDA with overseas data including data demonstrating lack of ethnic differences. Priority review/approval process will be applied.  
 \*\* As of April 2018  
 \*\*\* For FY 2017

## NEW FORMULATIONS

- ENTYVIO SUBCUTANEOUS**
- Positive topline results from VISIBLE UC trial; **filing Q4 FY2018 in US for UC, and in EU for both UC and CD**
  - Anticipate readout in **H2 FY2019** from VISIBLE CD

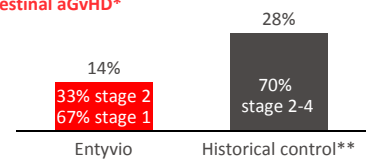
Prefilled syringe    Autoinjector pen    Portal needle-free



## EXPANDED PATIENT POPULATIONS

- GvHD prophylaxis Ph3 first patient expected **Dec 2018**
- GvHD prophylaxis Ph3 readout expected **H1 FY2021**

**Phase 1b data (N = 21): 6 month incidence of intestinal aGvHD\***



\* The safety profile of Entyvio in the GvHD patient population remains unchanged and is consistent with the approved US labelling  
 \*\* Adjusted for patient population including allogeneic stem cell transplant characteristics with similar conditioning regimen

Abbreviations: IBD, Inflammatory Bowel Disease e.g., Ulcerative Colitis (UC), Crohn's disease (CD); aGvHD, Acute Graft vs. Host Disease

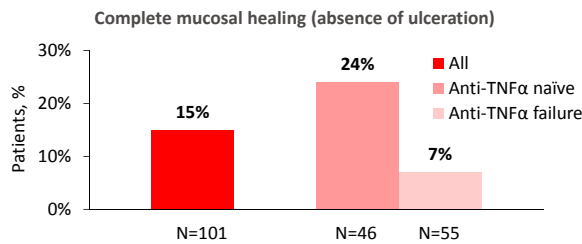
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# ENTYVIO CONTINUES TO DELIVER AGAINST UNMET NEED FOR PATIENTS



## NEW EVIDENCE GENERATION

### MUCOSAL HEALING IN CROHN'S DISEASE – PREVIOUSLY A GAP FOR ENTYVIO



*Vedolizumab can induce endoscopic remission and complete mucosal healing over 26 weeks of treatment<sup>1</sup> at levels comparable to other biologic therapies*

<sup>1</sup> Danese S, et al. ECCO 2018. Oral presentation OP023.  
<sup>2</sup> Colombel J, Sands BE, Rutgeerts P, et al. The safety of vedolizumab for ulcerative colitis and Crohn's disease. Gut 2017;66:839-851.  
<sup>3</sup> References for the Victory Consortium Studies:  
 Bohm et al—CD propensity; ([https://academic.oup.com/ecco-icc/article/12/supplement\\_1/S018/4807655](https://academic.oup.com/ecco-icc/article/12/supplement_1/S018/4807655))  
 Faleck et al—UC propensity; ([https://academic.oup.com/ecco-icc/article/12/supplement\\_1/S019/4807661](https://academic.oup.com/ecco-icc/article/12/supplement_1/S019/4807661))

Abbreviations: SES-CD, Simple Endoscopic Score for CD; TNFα, tumor necrosis factor alpha.

### OTHER DATA

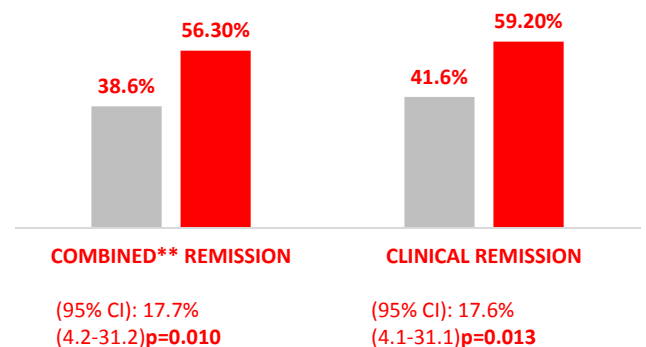
- Head-to-head vs. adalimumab readout expected in **H1 FY2019**
- Long-term safety data published in Gut<sup>2</sup>
- Real world propensity score matched analyses by the VICTORY Consortium<sup>3</sup> trended favorable to superior profile for Entyvio vs. anti-TNFs

# ALOFISEL: FIRST AND ONLY APPROVED (EU) MESENCHYMAL STEM CELL THERAPY FOR FISTULIZING CROHN'S DISEASE

### ADDRESSES THE HIGHEST UNMET NEED IN IBD, PERIANAL CROHN'S

- ~5% of Crohn's patients experience perianal fistulas, resulting in drainage, pain, and multiple surgeries
- Biologic therapies do not address the depth of unmet need
- Patients experience an average of 4 medical treatments and 5.4 surgeries with >50% failure rate and risk of permanent fecal incontinence
- Patient anxiety regarding maintenance of bodily function, **shame, fear of unknown** and **depression**
- ADMIRE-2 Phase 3 study for US registration ongoing in EU/Israel, first US patient expected **Q1 FY2019**

### CX601 MEANINGFULLY IMPROVES STANDARD OF CARE IN ACHIEVING REMISSION (52 WK)\*



■ Control group (Placebo + SOC; n=101) ■ Cx601 group (Cx601 + SOC; n=103)

20.4% of patients in the Cx601 group vs. 26.5% in the control group experienced treatment related adverse events

\* Panés J, et al., Gastroenterology. Published online 18th December 2017.

\*\* Combined = clinical + radiologic

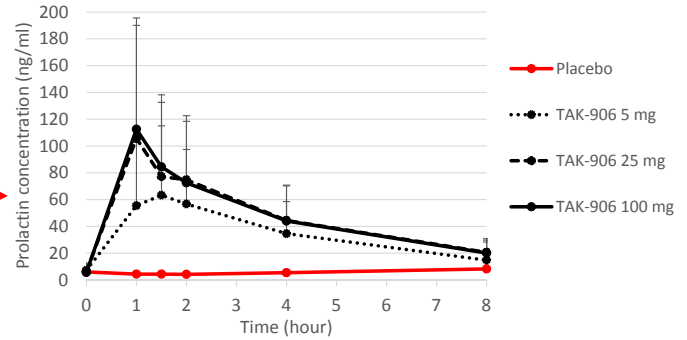
Abbreviations: SOC, Standard of care

# TAK-906: DISTINCTIVE MECHANISM OF ACTION (ORAL D2/D3 RECEPTOR ANTAGONIST) THAT FILLS A LARGE UNMET NEED IN GASTROPARESIS

## CURRENT THERAPIES DO NOT MEET THE SIGNIFICANT UNMET NEED IN GASTROPARESIS

- Gastroparesis affects ~45M people globally
- Key symptoms are nausea, vomiting
- No drug approved in the US to treat all forms of gastroparesis, inadequate options elsewhere

## TAK-906: PHASE 2A STUDY DEMONSTRATES TARGET ENGAGEMENT AND ENABLES DOSE SELECTION



- No QTc prolongation in Healthy Volunteer study
- No QTc prolongation or drug-related neurological AEs in Phase 2a study in GP patients\*
- Phase 2b dose-range finding study expected to initiate in Q4 2018

\* Other AEs observed in Phase 2a study not related to TAK-906 administration included a case of tremor in a subject with history of depression, anxiety, T2DM and Neurontin use. Also, acute kidney insufficiency in a patient with urinary tract infection and in a patient with prior chronic renal failure.

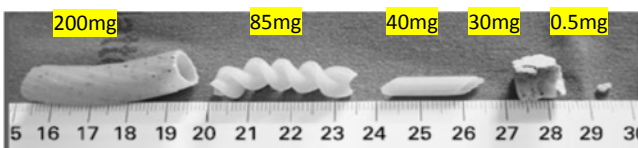
Abbreviations: AE, Adverse event; HV, healthy volunteer; GP, Gastroparesis

# KUMA062: A HIGHLY POTENT ORAL GLUTENASE THAT COULD CHANGE THE STANDARD OF CARE IN CELIAC DISEASE

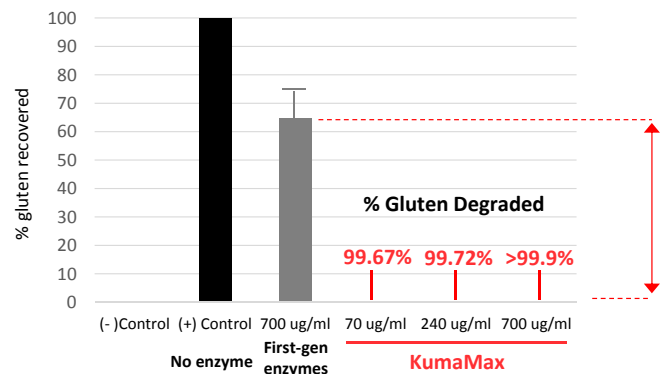
## CELIAC DISEASE

- Affects ~1% of the population<sup>1</sup>, rising prevalence
- Triggered by exposure to omnipresent gluten peptides
- Manifests via immune reaction in gut causing distressing symptoms
- Only existing treatment is a gluten free diet (GFD)

As little as 50-100mg of gluten exposure per day can trigger celiac disease



## GLUTEN RECOVERY FROM RAT STOMACHS 30MINS AFTER DIGESTION OF A HIGH-GLUTEN BREAD SLURRY



- Kuma062 is a computationally engineered super glutenase
- Proof-of-mechanism (POM) study enabling go/no-go decision initiated July 2018, readout anticipated H1 FY2019

<sup>1</sup> Pooled global prevalence; Clin Gastroenterol Hepatol. 2018 Jun;16(6):823-836  
Abbreviations: POM, Proof of mechanism

# WE HAVE STRENGTHENED OUR COMMITMENT TO ADDRESSING LIVER DISEASES THROUGH EARLY RESEARCH PARTNERSHIPS

TARGETING LIVER FIBROSIS PREVENTION AND REVERSAL THROUGH NEW PLATFORMS, NEW PROJECTS AND BUSINESS DEVELOPMENT FOCUSED ON PERI-IND OPPORTUNITIES



Human cell system for new target identification and validation for liver fibrosis



Liver-targeted delivery of nucleotide therapeutics with anti-fibrotic MOAs



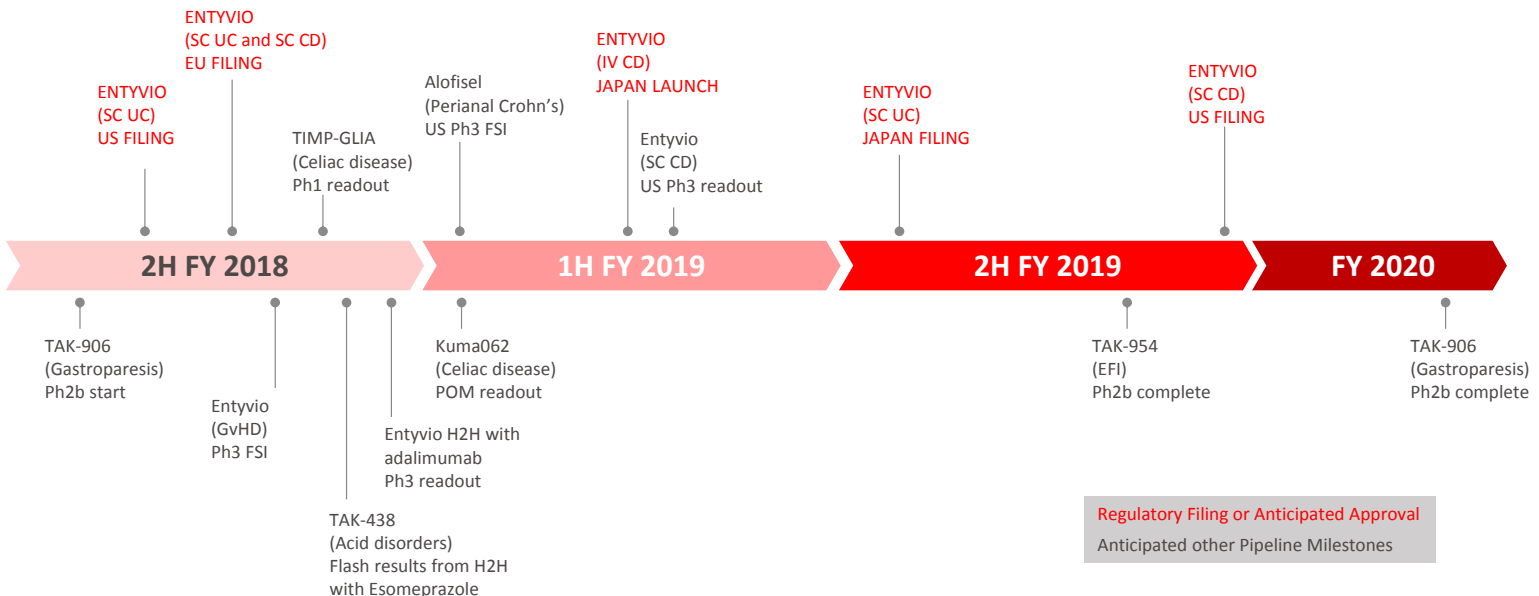
Takeda co-founded with Third Rock Ventures to focus on cell and gene therapy for end-stage liver diseases

Series A announced August 2018

Abbreviations: MOA, Mechanism of action

# EXPECTED KEY GI PORTFOLIO INFLECTIONS AND MILESTONES

Dates in fiscal year (FY) starting April 1<sup>st</sup>



Projected timelines as of September 23, 2018, subject to change

Abbreviations: FSI, First subject in; SC, Subcutaneous; IV, Intravenous; UC, Ulcerative colitis; CD, Crohn's disease; GvHD, Graft vs. host disease; POM, Proof of mechanism; EFI, Enteral feeding intolerance; H2H, head to head.

## CONCLUSION

**1**

Maximizing the potential of ENTYVIO and delivering ALOFISEL to global markets

**2**

Progressing several early to mid-stage assets including TAK-906 for gastroparesis and KUMA062 for celiac disease

**3**

Continuing to capture opportunities early through industry-leading scientific talent, sophisticated in-house evaluation capabilities and rapid decision-making