



GASTROENTEROLOGY



TAKEDA GASTROENTEROLOGY

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Takeda Gastroenterology

Takeda is committed to bringing *Better Health and a Brighter Future* to patients by translating science into highly innovative medicines. Our employees are committed to improving quality of life for patients and to working with our partners in healthcare in approximately 80 countries and regions.

Takeda focuses its R&D efforts on four therapeutic areas: Oncology, Gastroenterology, Neuroscience and Rare Diseases. We also make targeted R&D investments in Plasma-Derived Therapies and Vaccines.

Our mission is to ***deliver innovative, life-changing therapeutics for patients with gastrointestinal and liver diseases***. To achieve this, Takeda has honed its expertise in the areas of gastroenterology associated with the highest unmet need, using cutting-edge technologies to discover and develop a sophisticated range of medicines. The following disease areas serve as our core research focus in gastroenterology:

- **Inflammatory bowel disease (IBD)** including advancements in ulcerative colitis and Crohn's disease, complications associated with IBD such as short bowel syndrome with intestinal failure and perianal fistulas. New treatment modalities including stem cells and microbiome therapies are important platforms for innovation in IBD
- **Motility disorders** such as gastroparesis, postoperative gastrointestinal dysfunction and chronic idiopathic constipation, where existing therapies are ineffective or have unfavorable benefit to risk profiles
- **Celiac disease** including development of novel treatments for gluten intolerant patients and **other gastrointestinal inflammatory diseases** such as eosinophilic esophagitis
- **Liver diseases** including advanced fibrosis
- **Acid-related diseases** such as gastroesophageal reflux disease (GERD)

OUR PATIENTS. WHY WE DO WHAT WE DO.

Patients are at the heart of our organization and it is our vision to *Restore Life to Living* for those with gastrointestinal and liver diseases. Gastrointestinal diseases are a global issue, with rising prevalence across every continent adding substantial costs to healthcare systems worldwide; especially in newly industrialized countries in Asia, South America, and the Middle East where prevalence has increased dramatically.¹

While some gastrointestinal diseases are acute, causing discomfort for only a short time, others are chronic, painful, and incredibly disruptive to people's lives.² Some chronic conditions may be isolating, mentally exhausting, and affect relationships and the lives of family members and friends.²

References

1. Kaplan GG. The global burden of IBD: from 2015 to 2025. *Nat Rev Gastroenterol Hepatol.* 2015;12:720-727.
2. Lönnfors S, Vermeire S, Greco M, et al. IBD and health-related quality of life - discovering the true impact. *J Crohns Colitis.* 2014;8:1281-1286.

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EDUCATE. ENABLE. EMPOWER.

At Takeda we understand that, to make a real difference, we must truly understand how gastrointestinal and liver diseases impact the everyday lives of our patients. Our unique and holistic approach goes beyond providing patients with medicines by creating innovative awareness campaigns and using medical education as a lever to empower our patients to act for better health.





IN THEIR SHOES

In Their Shoes is a ground-breaking, immersive disease simulation created to connect people with an understanding of IBD and its impact on patients' quality of life. Over 1,500 participants from more than 25 countries worldwide have had the opportunity to simulate an IBD patient's daily life via mobile app challenges and navigate a powerful first-hand experience of the emotional and physical burden of living with the disease. *In Their Shoes* has been recognized in many awards, including winning the Gold Award in France's Health Communication Festival for 2017. Furthermore, an evaluation study conducted by the University of Westminster, London, UK, and published in *Frontiers in Psychology* demonstrated statistically significant increases in understanding, empathy and connection to patients living with IBD, as well as a greater desire to help raise public awareness and improve access to patient support amongst *In Their Shoes* participants.³ In early 2019, following the global success of *In Their Shoes*, Takeda expanded the program's scope with the launch of a new version simulating the life of a patient living with a complex perianal fistula.

References

3. Cartwright T, Halton C. Walking in a patient's shoes: an evaluation study of immersive learning using a digital training intervention. *Front Psychol*. 2018; <https://doi.org/10.3389/fpsyg.2018.02124>.

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Medicines are evolving. So are we.

To deliver innovative, life-changing treatments for individuals with gastrointestinal and liver diseases, Takeda is evolving its focus to specialty diseases and novel gut-specific platforms. Takeda aspires to do this by concentrating on the highest unmet needs with relevant underlying disease drivers and leveraging novel therapeutic modalities.

Building on our expertise in IBD and celiac disease, we have identified core areas of higher need to focus upon and are developing exciting treatments for gastrointestinal disorders and liver diseases. Being a patient-orientated organization, we continue to scan the horizon above and beyond our specialty focus areas for new opportunities that offer truly innovative treatment options for our patients.

Special partnerships. Unique treatments. Brighter future.

Our world-class R&D team for gastrointestinal and liver diseases has an unwavering commitment and passion to develop innovative therapies for patients living with these unmet needs; so much so, that we have made it one of our top priorities at Takeda. Takeda today looks beyond the conventional industry model to develop more advanced healthcare solutions by identifying and collaborating with the right partners to create better and smarter solutions to improve the lives of people living with gastrointestinal and liver diseases.

With our global network of collaborators, deep expertise built over decades in this category, and our new strategic approach to treating specialty diseases, Takeda aims to set the standard for success in patient support and disease management for people living with gastrointestinal and liver diseases.



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Takeda is partnering with Enterome to research and develop potential new therapeutics directed at microbiome targets that are thought to play crucial roles in gastrointestinal disorders such as Crohn's disease.



Takeda has a unique collaboration with Theravance Biopharma, looking into investigational treatment opportunities for gastrointestinal motility disorders including Post-Operative Gastrointestinal Dysfunction (POGD).



To reinforce our commitment to developing therapeutics specifically targeting celiac disease, we have partnered with PVP Biologics Inc. Currently, the only treatment available is a strict gluten-free diet, which means there is a significant unmet need for patients with celiac disease.



Takeda is partnering with Ambys Medicines to develop first-in-class therapies for the treatment of serious liver diseases. Together with Ambys Medicines, we are working to pioneer novel modalities, including cell and gene therapy and gain-of-function drug therapy, to meet the urgent need for treatments that restore liver function and prevent the progression to liver failure across multiple liver diseases that are untreatable or poorly treated today.

PIPELINE OF PRODUCTS

Takeda is committed to providing novel medicines for gastrointestinal and liver diseases globally. Through specialized and strategic in-house development, external partnerships, in-licensing, and acquisitions, Takeda currently has a number of promising early stage assets in development and remains committed to delivering innovative therapeutic options for patients with gastrointestinal and liver diseases.

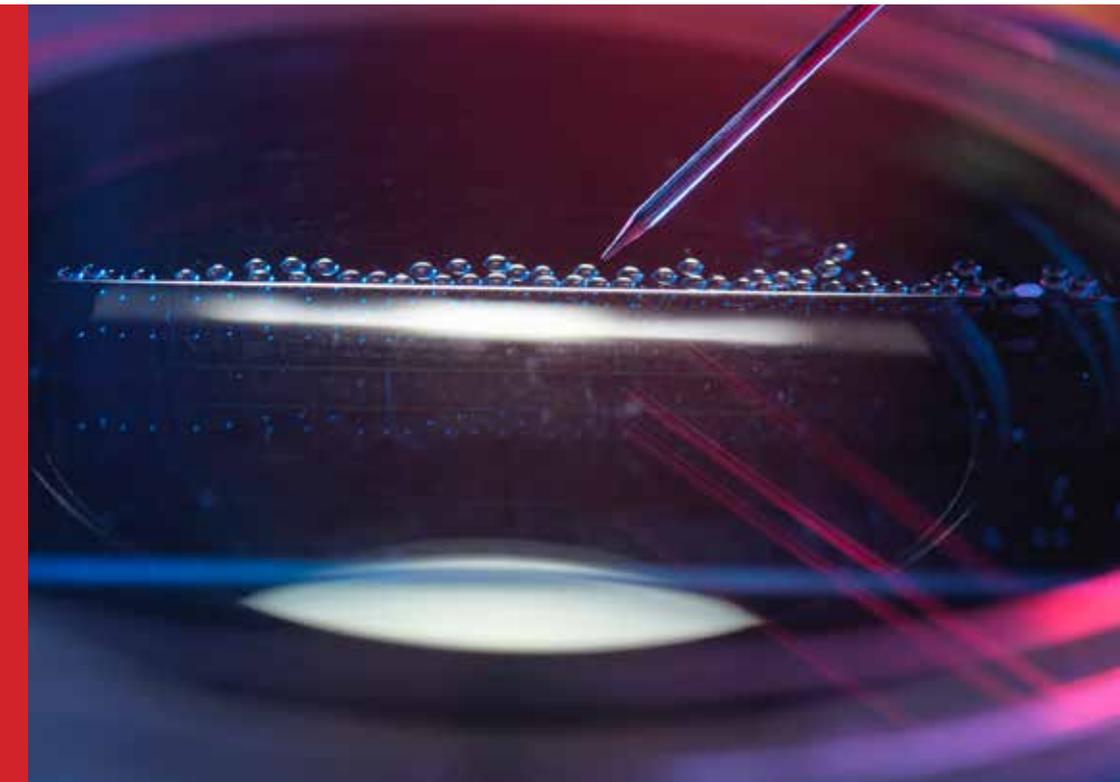
With a track record for success in our focused therapeutic areas, we continue to collaborate and innovate in areas where patients' needs are greatest. With our industry-leading expertise, we will continue to expand our R&D in search of better disease management.

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PHASE 1	PHASE 2	PHASE 3 / FILED	APPROVED*
TAK-671 Samsung Bioepis Protease Inhibitor Acute Pancreatitis	TAK-906 D2/D3R Antagonist Gastroparesis	TAK-721 (SHP621) UCSD/Fortis Orphan Drug Designation Oral Anti-Inflammatory Eosinophilic Esophagitis	ENTYVIO® α4β7 integrin mAb Crohn's Disease/Ulcerative Colitis, Subcutaneous UC/CD, Orphan Drug Designation Graft versus Host Disease (GvHD) Prophylaxis
Kuma062 PvP Biologics Glutenase Celiac Disease	TAK-954 5-HT4R Agonist Post-Operative Gastrointestinal Dysfunction		TAKECAB®/VOCINTI® Potassium-Competitive Acid Blocker GERD PPI Partial Responder, Acid-Related Diseases
TIMP-Gliadin Cour Pharmaceuticals Imm. Tol. Induction Celiac Disease			ALOFISEL® Orphan Drug Designation Mesenchymal Stem Cells Perianal Fistulas in CD
TAK-018 Enterome FimH Antagonist Crohn's Disease			REVESTIVE®/GATTEX® Neopharm Orphan Drug Designation Glucagon-like peptide-2 Adult Short Bowel Syndrome, Pediatric Short Bowel Syndrome
TAK-681 Glucagon-like peptide-2 analog Short Bowel Syndrome			RESOLOR®/MOTTEGRITY® Janssen Prucalopride 5-HT4R Agonist Chronic Idiopathic Constipation (U.S.)
TAK-951 Peptide agonist Nausea & vomiting	= Partnered Asset		

*with active development seeking new or supplemental indications





BETTER HEALTH, BRIGHTER FUTURE

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