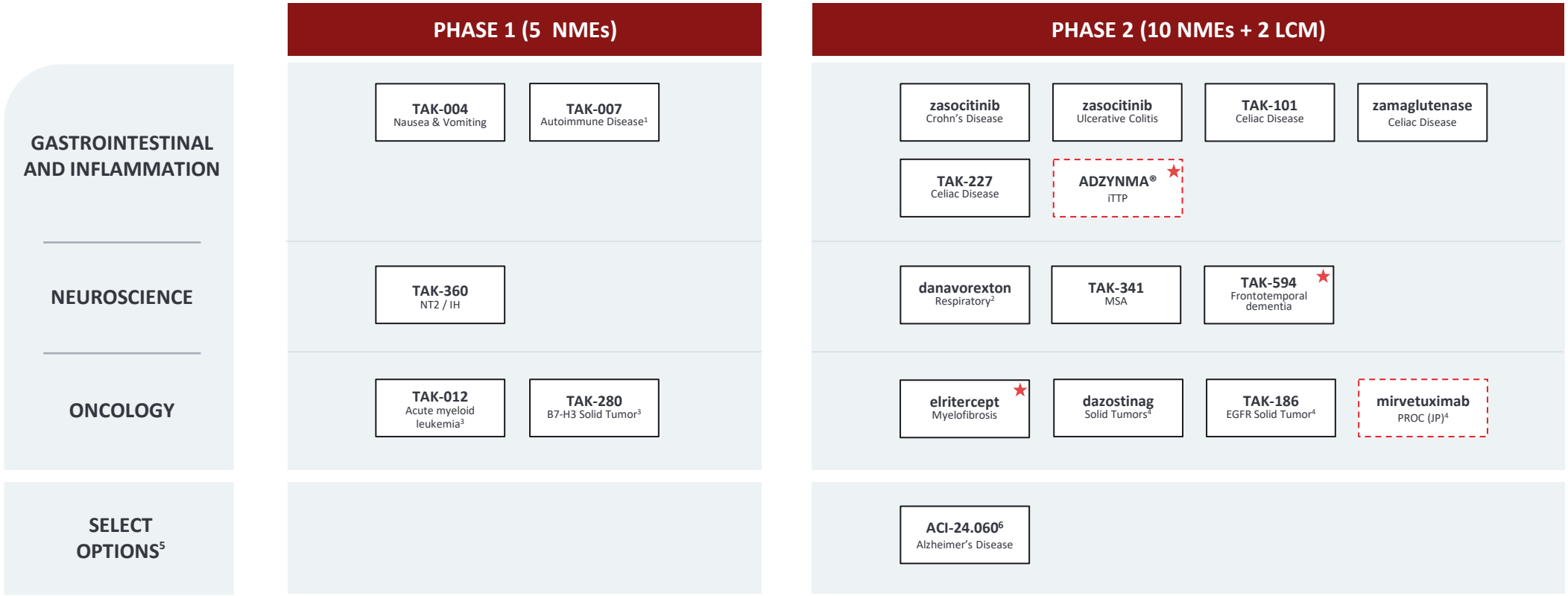
Consolidated Development Pipeline by Phase



1. TAK-007 Phase 1 trial in autoimmune disease is planned
2. Danavorexton trials in respiratory conditions under development
3. Currently in phase 1 of a phase 1/2 trial
4. Currently in phase 2 of a phase 1/2 trial
5. Select options: Other selected assets that Takeda holds contractual rights to potentially clinically develop and/or commercialize in the future.
6. ACI-24.060 is included for reference only. AC Immune retains ownership of this asset and is solely responsible for its clinical development prior to Takeda's potential exercise of its option to exclusively license certain rights, which is subject to customary conditions including regulatory approval.

NME

LCM

★ Orphan Drug Designation potential (in any region / indication for a given asset)

All timelines are approximate estimates as of January 30th, 2025, are subject to change and are subject to clinical and regulatory success. Table is not comprehensive. For full glossary of abbreviations please refer to appendix.

Consolidated Development Pipeline by Phase

	PHASE 3 (6 NMEs + 11 LCMs)	FILED (2 NME + 11 LCMs)
GASTROINTESTINAL AND INFLAMMATION	zasocitinib – Psoriasis zasocitinib – Psoriatic Arthritis[1] mezagitamab – ITP[1] ★ mezagitamab – IgAN[1] ★ fazirsiran – AATD Liver Disease ★ ENTYVIO® – Pediatric UC/Crohn's ADZYNMA® – cTTP (CN) ★	ADZYNMA® – cTTP (EU) ★ maralixibat – ALGS (JP) ★ maralixibat – PFIC (JP) ★
NEUROSCIENCE	oveporexton – NT1	
ONCOLOGY	rusfertide[2] – Polycythemia Vera ★ elritercept – MDS[3] mirvetuximab – PSOC (JP)	FRUZAQLA™ – mCRC (EU) FRUZAQLA™ – mCRC (JP) ADCETRIS® – FL HL BrECADD (EU)
Other Rare Diseases	LIVTENCITY® – Pediatric Post-transplant CMV infection ★ VONVENDI® – vWD Pediatric On-demand & Surgery, Prophylaxis ★ ADYNOVATE® – recombinant Factor VIII Pediatric HemA (EU) ADYNOVATE® – recombinant Factor VIII HemA (CN)	LIVTENCITY® – Post-transplant CMV infection (JP) ★ VONVENDI® – vWD On-demand & Surgery (CN) ★
PLASMA-DERIVED THERAPIES	TAK-881 – PID Prothromplex – DOAC Reversal (US) Glovenin-I 5% – Autoimmune Encephalitis (JP) ★	HYQVIA® – PID, SID (JP) HYQVIA® – CIDP, MMN (JP) TAK-880 – IgG – Low IgA (EU) TAK-880 – IgG – Low IgA (US) HyHub™ – AVA Device
VACCINES	QDENGA® – Dengue Vaccine Booster	Nuvaxovid® – COVID-19 Variant Vaccine (JP)
SELECT OPTIONS[4]	olverembatinib[5] HQP1351 – CP-CML ★	

1. Trials for zasocitinib PsA and Mezagitmamab ITP are not yet recruiting. Mezagitamab IgAN is planned.
2. From Q4 FY2024, rusfertide is part of the Oncology portfolio.
3. Elritercept MDS trial actively recruiting.
4. Select options: Other selected assets that Takeda holds contractual rights to potentially clinically develop and/or commercialize in the future.
5. Olverembatinib/HQP1351 is included for reference only. Ascentage Pharma retains ownership of this asset and is solely responsible for its clinical development prior to Takeda's potential exercise of its option to exclusively license certain rights, which is subject to customary conditions including regulatory approval.

APPROVED | NME | LCM

★ Orphan Drug Designation potential (in any region / indication for a given asset)

All timelines are approximate estimates as of January 30th, 2025, are subject to change and are subject to clinical and regulatory success. Table is not comprehensive. For full glossary of abbreviations please refer to appendix.

Glossary of Abbreviations

Regional Abbreviations:
CN: China; EU: Europe; JP: Japan; U.S.: United States of America

AA	anemia-associated
AATD	α1-antitrypsin deficiency
AATD LD	α1-antitrypsin deficiency associated liver disease
ADAMTS13	a disintegrin-like and metalloproteinase with a thrombospondin type 1 motifs 13
ADC	antibody–drug conjugate
ALGS	Alagille syndrome
AVA	Advanced Vial Access
BID	bis in die, twice a day
BTD	breakthrough therapy designation
CAR NK	chimeric antigen receptor natural killer cell
CHMP	Committee for Medicinal Products for Human Use
CIDP	chronic inflammatory demyelinating polyradiculoneuropathy
CML	chronic myeloid leukemia
CMV	cytomegalovirus
CP-CML	chronic-phase chronic myeloid leukemia
CRC	colorectal cancer
CRPC	castrate-resistant prostate cancer
cTTP	congenital thrombotic thrombocytopenic purpura
DOAC	direct oral anti-coagulation
DS	Dravet syndrome
EGFR	epidermal growth factor receptor
EMA	European Medicines Agency
FDA	U.S. Food & Drug Administration
FL	front line
fSCIG	facilitated Subcutaneous Immunoglobulin
FY	fiscal year
GI	gastrointestinal
H2H	head-to-head
HAE	hereditary angioedema
HCP	healthcare professional
HemA	hemophilia A
HL	Hodgkin lymphoma
IBD	inflammatory bowel disease
IgA	immunoglobulin A
IgAN	immunoglobulin A nephropathy
IgG	immunoglobulin G
IH	idiopathic hypersomnia
IND	investigational new drug
INN	international non-proprietary name
ITP	immune thrombocytopenia
iTTP	immune thrombotic thrombocytopenic purpura
IV	intravenous
JAK	Janus kinase
LCM	lifecycle management
mCRC	metastatic colorectal cancer
MDS	myelodysplastic syndrome
MF	myelofibrosis
MMN	multifocal motor neuropathy
MSA	multiple system atrophy
NDA	new drug application
NK	natural killer
NME	new molecular entity
NMPA	(China's) National Medical Products Administration
NT1 or 2	narcolepsy type 1 or 2
PDT	plasma derived therapies
PFIC	progressive familial intrahepatic cholestasis
PID	primary immunodeficiency
PK	pharmacokinetics
PMDA	Japan's Pharmaceuticals and Medical Devices Agency
POC	proof of concept
PRIME	Priority medicines scheme by EMA
PROC	platinum-resistant ovarian cancer
PSOC	platinum-sensitive ovarian cancer
PTRS	probability of technical and regultory success
PV	polycythemia vera
QD	quaque die, every day
QOL	quality of life
RTU	ready to use
SC	subcutaneous formulation
SID	secondary immunodeficiency
SOC	standard of care
TKI	tyrosine kinase inhibitor
TYK2	tyrosine kinase 2
UC	ulcerative colitis
vWD	von Willebrand disease
WW	worldwide

1. Pipeline

I. Clinical Development Activities

- Except as otherwise noted, the following tables list the pipeline assets that we (i) are clinically developing ourselves or with partners, or (ii) hold contractual rights to potentially clinically develop and/or commercialize in the future, as of January 30, 2025 (the date of our earnings release for the quarter ended December 31, 2024), but may not be comprehensive. The assets in our pipeline are in various stages of development, and the contents of the pipeline may change as therapeutic candidates currently under development drop out and new therapeutic candidates are introduced. Whether the therapeutic candidates listed below are ever successfully released as products depends on various factors, including the results of pre-clinical and clinical trials, market conditions for various drugs and regulatory approvals.
- This table primarily shows the indications for which we are actively pursuing regulatory approval and those regulatory approvals granted during fiscal year 2024. We are also conducting additional studies of certain assets to examine their potential for use in further indications and in additional formulations.
- The listings in this table are limited to the U.S., EU and Japan and China, but we are also actively conducting development activities in other regions, including in Emerging Markets. Country/region column denotes where a pivotal clinical study is ongoing or a filing has been made with our specific intention to pursue approval in any of the U.S., EU, Japan or China. 'Global' refers to U.S., EU, Japan and China.
- Brand name and country/region indicate the brand name and country in which the specific asset has already been approved for any indication in any of the U.S., EU, Japan or China and Takeda has commercialization rights for such asset.
- Stage-ups are recognized in the table upon achievement of First Subject In, unless otherwise specified.
- Modality of our pipeline assets in the following table is classified into either of the following categories: ‘small molecule’, ‘peptide/oligonucleotide’, ‘cell and gene therapy’ or ‘biologic and other.’

Gastrointestinal and Inflammation Pipeline

Development code <generic name> Brand name (country/region)	Type of Drug (administration route)	Modality	Indications / additional formulations	Country/ Region	Stage
MLN0002 <vedolizumab> *ENTYVIO* (Global)	Humanized monoclonal antibody against α4β7 integrin (injection)	Biologic and other	Crohn's disease (subcutaneous formulation)	U.S.	Approved (Apr 2024)
			Pediatrics Study (intravenous formulation for ulcerative colitis, Crohn’s disease)	Global	P-III
TAK-755[1] <apadamtase alfa/ cinaxadamtase alfa> *ADZYNMA* (U.S., EU, Japan)	ADAMTS13 enzyme replacement therapy (injection)	Biologic and other	Congenital Thrombotic Thrombocytopenic Purpura	EU China	Approved (Aug 2024) P-III
			Immune Thrombotic Thrombocytopenic Purpura	U.S. EU	P-II (b) P-II (b)
TAK-625[2] <maralixibat>	IBAT inhibitor (oral)	Small molecule	Alagille syndrome	Japan	Filed (Jun 2024)
			Progressive Familial Intrahepatic Cholestasis	Japan	Filed (Jun 2024)
TAK-999[3] <fazirsiran>	GalNAc based RNA interference (RNAi) (injection)	Peptide/oligo-nucleotide	Alpha-1 antitrypsin-deficiency associated liver disease	U.S. EU	P-III P-III
TAK-279 <zasocitinib>	TYK2 inhibitor (oral)	Small molecule	Psoriasis	Global	P-III
			Psoriatic Arthritis	-	P-II (b)
			Crohn’s disease	-	P-II (b)
			Ulcerative colitis	-	P-II (b)

TAK-227/ZED1227[4]	Transglutaminase 2 inhibitor (oral)	Small molecule	Celiac disease	-	P-II (b)
TAK-062 <zamaglutenase>	Glutenase (oral)	Biologic and other	Celiac disease	-	P-II
TAK-101[5]	Tolerizing Immune Modifying nanoParticle (TIMP) (injection)	Biologic and other	Celiac disease	-	P-II
TAK-079 <mezagitamab>	Anti-CD38 monoclonal antibody (injection)	Biologic and other	Immune thrombocytopenia	-	P-II
			Immunoglobulin A nephropathy	-	P-I
TAK-004	Peptide agonist (injection)	Peptide/oligo-nucleotide	Nausea and Vomiting	-	P-I

1. Partnership with KM Biologics.
2. Partnership with Mirum Pharmaceuticals.
3. Partnership with Arrowhead Pharmaceuticals
4. Partnership with Zedira and Dr. Falk Pharma. Dr. Falk Pharma leads development.
5. Partnership with COUR Pharmaceuticals.

Additions since FY2024 Q2: TAK-004 for nausea and vomiting (P-I)

Removals since FY2024 Q2:

MLN0002 for Graft-versus-Host Disease prophylaxis in patients undergoing allogeneic HSCT (EU, Japan, P-III trial enrollment closed early)

Cx601 for Pediatric indication for refractory complex perianal fistulas in patients with Crohn’s disease (EU, Japan, P-III discontinued)

Neuroscience Pipeline

Development code <generic name> Brand name (country/region)	Type of Drug (administration route)	Modality	Indications / additional formulations	Country/ Region	Stage
TAK-861 <oveporexton>	Orexin 2R agonist (oral)	Small molecule	Narcolepsy type 1	Global	P-III
TAK-341/MEDI1341[1]	Alpha-synuclein antibody (injection)	Biologic and other	Multiple System Atrophy (MSA)	-	P-II
TAK-594/DNL593[2]	Brain-penetrant progranulin fusion protein (injection)	Biologic and other	Frontotemporal dementia	-	P-II
TAK-925 <danavorexton>	Orexin 2R agonist (injection)	Small molecule	Narcolepsy	-	P-I
TAK-360	Orexin 2R agonist (oral)	Small molecule	Narcolepsy type 2 / Idiopathic hypersomnia	-	P-I

1. Partnership with Alexion, a subsidiary of AstraZeneca.
2. Partnership with Denali Therapeutics. Denali leads development.

Additions since FY2024 Q2: None

Removals since FY2024 Q2:

TAK-935 for Dravet syndrome (global P-III, discontinued)

TAK-653 for inadequate response to treatment in major depressive disorder (P-II, agreement amended with Neurocrine, Takeda re-acquired Japan rights)

Oncology Pipeline

Development code <generic name> Brand name (country/region)	Type of Drug (administration route)	Modality	Indications / additional formulations	Country/ Region	Stage
TAK-113[1] <fruquintinib> *FRUZAQLA* (U.S., EU, Japan)	VEGFR inhibitor (oral)	Small molecule	Previously treated metastatic Colorectal Cancer (mCRC)	EU	Approved (Jun 2024)
			Treatment of unresectable advanced or recurrent Colorectal Cancer (CRC) that has progressed after chemotherapy	Japan	Approved (Sep 2024)
SGN-35[2] <brentuximab vedotin> *ADCETRIS* (EU, Japan, China)	CD30 monoclonal antibody-drug conjugate (injection)	Biologic and other	Front line Hodgkin's lymphoma – BrECADD regimen (brentuximab vedotin, etoposide, cyclophosphamide, doxorubicin, dacarbazine, dexamethasone)[3]	EU	Filed (Apr 2024)
TAK-121[4] <rusfertide>	Hepcidin mimetic peptide (injection)	Peptide/oligo-nucleotide	Polycythemia vera	U.S.	P-III
TAK-226[5] <elritercept>	Activin A and B inhibitor (injection)	Biologic and other	Anemia-associated Myelodysplastic Syndrome	U.S. EU Japan	P-III[6]
			Anemia-associated Myelofibrosis	-	P-II
TAK-853[7] <mirvetuximab soravtansine-gynx>	Antibody-drug conjugate targeting folate receptor α (FRα) (injection)	Biologic and other	Platinum-sensitive ovarian cancer	Japan	P-III
			Platinum-resistant ovarian cancer	Japan	P-II
TAK-676 <dazostinag>	STING agonist (injection)	Small molecule	Solid tumors	-	P-II
TAK-186	T Cell Engager (injection)	Biologic and other	EGFR expressing solid tumors	-	P-II
TAK-280	T Cell Engager (injection)	Biologic and other	B7-H3 expressing solid tumors	-	P-I
TAK-012	Variable delta 1 (Vδ1) gamma delta (γδ) T cells (injection)	Cell and gene therapy	Relapsed/refractory Acute Myeloid Leukemia	-	P-I

1. Partnership with HUTCHMED
2. Partnership with Pfizer Inc.
3. Submission based on data from German Hodgkin Study Group HD21 trial.
4. Partnership with Protagonist Therapeutics. Protagonist leads development.
5. Partnership with Keros Therapeutics, Inc.
6. Elritercept MDS trial actively recruiting.
7. Partnership with AbbVie. Global P-III trial in platinum-sensitive ovarian cancer is led by AbbVie.

Additions since FY2024 Q2:

TAK-226 for anemia-associated myelodysplastic syndrome (U.S., EU, Japan P-III)

TAK-226 for anemia-associated myelofibrosis (P-II)

TAK-853 for Platinum-sensitive ovarian cancer (Japan, P-III)

Removals since FY2024 Q2:

Cabozantinib, for metastatic castration-resistant prostate cancer in combination with atezolizumab (Japan, P-III, discontinued)

TAK-500 for solid tumors (P-I, discontinued)

Other Rare Diseases Pipeline

Development code <generic name> Brand name (country/region)	Type of Drug (administration route)	Modality	Indications / additional formulations	Country/ Region	Stage
TAK-620[1] <maribavir> *LIVTENCITY* (Global)	Benzimidazole riboside inhibitor (oral)	Small molecule	Post-transplant cytomegalovirus (CMV) infection/disease that is refractory to existing anti-CMV therapies	Japan	Approved (Jun 2024)
			Treatment of children and teenage transplant recipients with CMV infection	Global	P-III
TAK-577 *VONVENDI* (U.S., Japan, China) *VEYVONDI* (EU)	von Willebrand factor [recombinant] (injection)	Biologic and other	Adult on-demand and surgery treatment of von Willebrand disease	China	Approved (Aug 2024)
			Pediatric on-demand and surgery treatment of von Willebrand disease	Global	P-III
			Pediatric prophylaxis treatment of von Willebrand disease	Global	P-III
TAK-660 *ADYNOVATE* (U.S., Japan) *ADYNOVI* (EU)	Antihemophilic factor [recombinant], PEGylated (injection)	Biologic and other	Pediatric Hemophilia A	EU	P-III
			Hemophilia A	China	P-III

1. Partnership with GSK

Additions since FY2024 Q2: TAK-577 for pediatric prophylaxis treatment of von Willebrand disease (global, P-III)

Removals since FY2024 Q2: None

Plasma-Derived Therapies Pipeline

Development code <generic name> Brand name (country/region)	Type of Drug (administration route)	Modality	Indications / additional formulations	Country/ Region	Stage
TAK-771[1] <IG Infusion 10% (Human) w/ Recombinant Human Hyaluronidase> *HYQVIA* (U.S., EU, Japan)	Immunoglobulin (IgG) + recombinant hyaluronidase replacement therapy (subcutaneous infusion)	Biologic and other	Primary Immunodeficiencies and Secondary Immunodeficiencies	Japan	Approved (Dec 2024)
			Chronic inflammatory demyelinating polyradiculoneuropathy and Multifocal Motor Neuropathy	Japan	Filed (Aug 2024)
TAK-880 <10% IVIG (Low IgA)>	Immunoglobulin (10%) [human] (injection) (Low IgA)	Biologic and other	Primary Immunodeficiencies	EU U.S.	Filed (Mar 2024) Filed (Aug 2024)
TAK-330 *PROTHROMPLEX TOTAL* (EU)	Four-factor prothrombin complex concentrate [human] (injection)	Biologic and other	Coagulation Disorder, Direct Oral Anticoagulants (DOAC) reversal in surgical situations	U.S.	P-III
TAK-961 <5% IVIG> *GLOVENIN-I* (Japan)	Immunoglobulin (5%) [human] (injection)	Biologic and other	Autoimmune Encephalitis (AE)	Japan	P-III
TAK-881 <Facilitated 20% SCIG>	Immunoglobulin (20%) [human] + recombinant hyaluronidase replacement therapy (injection)	Biologic and other	Primary Immunodeficiencies	U.S. EU Japan	P-III P-III P-III

1. Partnership with Halozyme

Additions since FY2024 Q2: None
Removals since FY2024 Q2: None

Vaccines Pipeline

Development code Brand name (country/region)	Type of vaccine (administration route)	Modality	Indications / additional formulations	Country/ Region	Stage
TAK-019[1] *NUVAXOVID Intramuscular Injection* (Japan)	Recombinant coronavirus (SARS-CoV-2) vaccine (intramuscular injection)	Biologic and other	For the prevention of infectious disease caused by SARS-CoV-2 (monovalent vaccine based on Omicron JN.1 variant)	Japan	Approved (Sep 2024)
TAK-003 *QDENGA* (Global)	Tetravalent dengue vaccine (injection)	Biologic and other	For the prevention of dengue fever of any severity, due to any serotype, in individuals aged 4 and older (booster extension)	-	P-III

1. Partnership with Novavax, Inc.

Additions since FY2024 Q2: None
Removals since FY2024 Q2: None

Select Options: Other Selected Assets That Takeda Holds Contractual Rights to Potentially Clinically Develop and/or Commercialize in the Future

Development code <generic name> Brand name (country/region)	Type of Drug (administration route)	Modality	Indications / additional formulations	Country/ Region	Stage
HQP1351[1] <olverembatinib>	BCR-ABL tyrosine kinase inhibitor (TKI) (oral)	Small molecule	Chronic phase-chronic myeloid leukemia	U.S. EU Japan	P-III
ACI-24.060[2]	Abeta active immunotherapy	Biologic and other	Alzheimer's disease	-	P-II

1. Olverembatinib/HQP1351 is included for reference only. Ascentage Pharma retains ownership of this asset and is solely responsible for its clinical development prior to Takeda's potential exercise of its option to exclusively license certain rights, which is subject to customary conditions including regulatory approval.
2. ACI-24.060 is included for reference only. AC Immune retains ownership of this asset and is solely responsible for its clinical development prior to Takeda's potential exercise of its option to exclusively license certain rights, which is subject to customary conditions including regulatory approval.

II. Recent Pipeline Progress in stage [Progress in stage since April 1st, 2024]

Development code <generic name>	Indications / additional formulations	Country/ Region	Progress in stage
MLN0002 <vedolizumab>	Subcutaneous formulation for Crohn's disease	U.S.	Approved (Apr 2024)
TAK-113 <fruquintinib>	Previously treated metastatic Colorectal Cancer (mCRC)	EU	Approved (Jun 2024)
TAK-620 <maribavir>	Post-transplant cytomegalovirus (CMV) infection/disease that is refractory to existing anti-CMV therapies	Japan	Approved (Jun 2024)
TAK-577 <vonicog alfa>	Adult on-demand and surgery treatment of von Willebrand disease	China	Approved (Aug 2024)
TAK-755 <apadamtase alfa/ cinaxadamtase alfa>	Congenital Thrombotic Thrombocytopenic Purpura	EU	Approved (Aug 2024)
TAK-019 <recombinant coronavirus (SARS-CoV-2) vaccine >	For the prevention of infectious disease caused by SARS-CoV-2 (monovalent vaccine based on Omicron JN.1 variant)	Japan	Approved (Sep 2024)
TAK-113 <fruquintinib>	Treatment of Unresectable Advanced or Recurrent Colorectal Cancer (CRC) that has progressed after chemotherapy	Japan	Approved (Sep 2024)
TAK-771 <IG Infusion 10% (Human) w/ Recombinant Human Hyaluronidase>	Primary Immunodeficiencies and Secondary Immunodeficiencies	Japan	Approved (Dec 2024)
SGN-35 <brentuximab vedotin>	Front line Hodgkin's lymphoma – BrECADD regimen (brentuximab vedotin, etoposide, cyclophosphamide, doxorubicin, dacarbazine, dexamethasone)	EU	Filed (Apr 2024)
TAK-625 <maralixibat>	Alagille syndrome	Japan	Filed (Jun 2024)
TAK-625 <maralixibat>	Progressive Familial Intrahepatic Cholestasis	Japan	Filed (Jun 2024)
TAK-771 <IG Infusion 10% (Human) w/ Recombinant Human Hyaluronidase>	Chronic inflammatory demyelinating polyradiculoneuropathy and Multifocal Motor Neuropathy	Japan	Filed (Aug 2024)
TAK-880 <10% IVIG (Low IgA)>	Primary Immunodeficiencies	U.S.	Filed (Aug 2024)
TAK-861 <oveporexton>	Narcolepsy type 1	Global	P-III
TAK-577	Pediatric prophylaxis treatment of von Willebrand disease	Global	P-III
TAK-853 <mirvetuximab soravtansine-gynx>	Platinum-sensitive ovarian cancer	Japan	P-III
TAK-226 <elritercept>	Anemia-associated Myelodysplastic Syndrome	U.S., EU, Japan	P-III
TAK-279 <zasocitinib>	Ulcerative colitis	-	P-II (b)

TAK-186	EGFR expressing solid tumors	-	P-II
TAK-853 <mirvetuximab soravtansine-gynx>	Platinum-resistant ovarian cancer	Japan	P-II
TAK-226 <elritercept>	Anemia-associated Myelofibrosis	-	P-II
TAK-360	Narcolepsy type 2 and Idiopathic hypersomnia	-	P-I
TAK-004	Nausea and vomiting	-	P-I

III. Projects removed from pipeline [Update since April 1st, 2024]

Development code <generic name>	Indications (Region/Country, Stage)	Reason
TAK-141/JR-141 <pabinafusp alfa>	Hunter syndrome (CNS and somatic symptoms) (EU, P-III)	Takeda and JCR entered into an agreement ending the geographically-focused exclusive collaboration and license agreement to commercialize pabinafusp alfa (JR-141; TAK-141) in Hunter syndrome, following Takeda's strategic assessment of the alliance. JCR has been and remains the study sponsor for JR-141, and JCR plans to continue the Phase 3 trial for participating patients.
TAK-935 <soticlestat>	Lennox-Gastaut syndrome (Global, P-III)	Trial did not meet primary endpoint.
<ponatinib>	Pediatric indication for Philadelphia chromosome-positive Acute Lymphoblastic Leukemia (P-I)	Trial closed due to dose-limiting toxicities.
TAK-925 <danavorexton>	Postanesthesia Recovery (P-II)	Trial closed due to enrollment challenges.
Cx601 <darvadstrocel>	Pediatric indication for refractory complex perianal fistulas in patients with Crohn's disease (EU, Japan, P-III)	Product withdrawn from market in Europe.
MLN0002 <vedolizumab>	Graft-versus-Host Disease prophylaxis in patients undergoing allogenic hematopoietic stem cell transplant (intravenous formulation) (EU, Japan, P-III)	Trial enrollment closed early during COVID-19 pandemic. Regulatory filing not pursued.
<cabozantinib>	Metastatic castration-resistant prostate cancer in combination with atezolizumab (Japan, P-III)	mCRPC development discontinued based on the trial results and assessment of Takeda's development strategy.
TAK-500	Solid tumors (P-I)	Trial closed due to dose-limiting toxicities.
TAK-653	Inadequate response to treatment in major depressive disorder (P-II)	Takeda/Neurocrine agreement amended. Takeda re-acquired exclusive rights in Japan and is eligible to receive milestone payments and royalties from commercialization in other regions. Takeda will be responsible for the development costs in Japan; Neurocrine will be responsible for the development costs worldwide ex-Japan and is eligible to receive royalties for sales in Japan.
TAK-935 <soticlestat>	Dravet Syndrome (Global, P-III)	Trial did not meet primary endpoint.

IV. Research & Development collaborations/partnering

– The following tables describe research & development collaborations/partnering and externalization projects entered into by Takeda, but do not represent a comprehensive list of all Takeda R&D collaborations. All of the "subject" descriptions listed below are as of the date of execution of the relevant agreement unless otherwise noted.

– ‡ shows collaborations/partnering and ♦ shows externalization project that have been executed since April 1, 2024.

Gastrointestinal and Inflammation

Partner	Country of incorporation	Subject
Arrowhead Pharmaceuticals	U.S.	Collaboration and licensing agreement to develop fazirsiran (TAK-999; ARO-AAT), an investigational RNA interference (RNAi) therapy in development to treat alpha-1 antitrypsin-associated liver disease (AATLD). ARO-AAT is a potential first-in-class therapy designed to reduce the production of mutant alpha-1 antitrypsin protein, the cause of AATLD progression.
COUR Pharmaceuticals	U.S.	Takeda has acquired an exclusive global license to develop and commercialize the investigational medicine TIMP-GLIA (TAK-101), an immune modifying nanoparticle containing gliadin proteins.
Engitix	U.K.	Collaboration and licensing agreement to utilize Engitix's unique extracellular matrix discovery platform to identify and develop novel therapeutics for liver fibrosis and fibrostenotic inflammatory bowel disease, including Crohn's disease and ulcerative colitis.
Genevant Sciences Corporation	U.S.	Collaboration and License Agreements to leverage Genevant's hepatic stellate cell-partitioning LNP platform to deliver Takeda-designed RNAi oligonucleotides intended to halt or reverse the progression of liver fibrosis.
KM Biologics	Japan	Collaboration and license agreement for the development of therapeutic uses of rADAMTS13 (TAK-755), including but not limited to TTP.
Mirum Pharmaceuticals	U.S.	Exclusive licensing agreement for the development and commercialization of maralixibat (TAK-625) in Japan for Alagille syndrome (ALGS), progressive familial intrahepatic cholestasis (PFIC), and biliary atresia (BA).
Pfizer	U.S.	2016 exclusive licensing agreement for development and commercialization of TAK-647 worldwide. Takeda decided to discontinue further development of TAK-647 in MASH based on portfolio prioritization.
UCSD/Fortis Advisors	U.S.	Technology license for the development of oral budesonide formulation (TAK-721) for treatment of eosinophilic esophagitis.
Zedira/Dr. Falk Pharma	Germany	Collaboration and license agreement to develop and commercialize a potential first-in-class therapy TAK-227/ZED1227, a tissue transglutaminase 2 (TG2) inhibitor, designed to prevent the immune response to gluten in celiac disease. Takeda has exclusive rights in the US and other territories outside of Europe, Canada, Australia and China.

Neuroscience

Partner	Country of incorporation	Subject
AC Immune‡	Switzerland	Exclusive, worldwide option and license agreement for AC Immune's active immunotherapies targeting toxic forms of amyloid beta (Abeta), including ACI-24.060 for the treatment of Alzheimer's disease.
AcuraStem	U.S.	Exclusive worldwide license agreement to develop and commercialize AcuraStem's PIKFYVE targeted therapeutics for the treatment of Amyotrophic Lateral Sclerosis (ALS).
Anima Biotech	U.S.	Strategic collaboration to discover and develop mRNA translation modulators for genetically-defined neurological diseases.
Alexion, a subsidiary of AstraZeneca	U.K.	Agreement for the joint development and commercialization of MEDI1341/TAK-341, an alpha-synuclein antibody currently in development as a potential treatment for Multiple System Atrophy (MSA) and Parkinson's disease.
BioMarin	U.S.	Agreement for the in-license of enabling technology for the exogenous replacement of Arylsulfatase A enzyme with intrathecal (IT) administration directly into the central nervous system for the long-term treatment of patients with metachromatic leukodystrophy (MLD), a rapidly-progressive and ultimately fatal neuro-degenerative rare disease (TAK-611).
BridGene Biosciences	U.S.	Research collaboration to discover small molecule drugs for "undruggable" targets using BridGene's chemoproteomics platform.
Denali Therapeutics	U.S.	Strategic option and collaboration agreement to develop and commercialize up to three specified therapeutic product candidates for neurodegenerative diseases, incorporating Denali's transport vehicle (TV) platform for increased exposure of biotherapeutic products in the brain; options exercised on DNL593/TAK-594 and DNL919/TAK-920 in Q3 FY2021. DNL919/TAK-920 molecule was discontinued in Q2 FY2023, and exploration for ATV:TREM2 backup is ongoing.
Lundbeck	Denmark	Collaboration agreement to develop and commercialize vortioxetine.
Luxna Biotech	Japan	Exclusive worldwide license agreement for the use of Luxna's breakthrough xeno nucleic acid technology for multiple undisclosed target genes in the area of neurological diseases.
Neurocrine Biosciences	U.S.	Collaboration to develop and commercialize 7 compounds in Takeda's early-to-mid stage neuroscience pipeline, including TAK-041/NBI-1065846, TAK-653/NBI-1065845 and TAK-831/NBI-1065844 (luvadaxistat). Takeda will be entitled to certain development milestones, commercial milestones and royalties on net sales and will, at certain development events, be able opt in or out of a 50:50 profit share on all clinical programs on an asset-by-asset basis. In June 2021, Takeda decided not to cost share further TAK-831/NBI-1065844 (luvadaxistat) development; Takeda maintains its right to receive milestones and royalties regarding TAK-831/NBI-1065844 (luvadaxistat). In Nov 2023, Neurocrine announced that TAK-041/NBI-1065846 Phase 2 trial results did not meet primary and secondary endpoints, which does not support further development of the asset. In September 2024, Neurocrine announced that TAK-831/NBI-1065846 Phase 2 results did not meet primary endpoint in patients with CIAS and that they were stopping further development of the asset. In January 2025, the Takeda/Neurocrine agreement was amended for TAK-653. Takeda re-acquired exclusive rights in Japan and is eligible to receive milestone payments and royalties from commercialization in other regions. Takeda will be responsible for the development costs in Japan; Neurocrine will be responsible for the development costs worldwide ex-Japan and is eligible to receive royalties for sales in Japan.
PeptiDream	Japan	Collaborative research and exclusive license agreement to create peptide-drug conjugates (PDCs) for neuromuscular and neurodegenerative diseases.

Oncology

Partner	Country of incorporation	Subject
AbbVie	U.S.	Exclusive licensing agreement to develop and commercialize mirvetuximab soravtansine-gynx in Japan for folate receptor-alpha (FRa) positive ovarian cancer.
Adimab	U.S.	Agreement for the discovery, development and commercialization of three mAbs and three CD3 Bi-Specific antibodies for oncology indications.
Ascentage Pharma‡	China	Option agreement to enter into an exclusive license agreement for olverembatinib/HQP1351, a BCR-ABL tyrosine kinase inhibitor (TKI), currently in development for chronic myeloid leukemia (CML) and other hematological cancers. If exercised, the option would allow Takeda to license global rights to develop and commercialize olverembatinib in all territories outside of mainland China, Hong Kong, Macau, Taiwan and Russia.
Crescendo Biologics	U.K.	Collaboration and licensing agreement for the discovery, development and commercialization of Humabody®-based therapeutics for cancer indications.
Egle Therapeutics	France	Identify novel tumor-specific regulatory T cell targets and develop unique anti-suppressor-based immunotherapies.
Exelixis	U.S.	Exclusive licensing agreement to commercialize and develop novel cancer therapy cabozantinib and all potential future cabozantinib indications in Japan, including advanced renal cell carcinoma and hepatocellular carcinoma.
F-star	U.K.	Discovery collaboration and worldwide, exclusive royalty-bearing license to Takeda to research, develop, and commercialize a bispecific antibody directed towards an undisclosed immuno-oncology target using F-star's proprietary Fcab™ and mAb2 ™ platforms. Takeda will be responsible for all research, development and commercialization activities under the agreement.
GSK	U.K.	Exclusive licensing agreement to develop and commercialize novel cancer therapy niraparib for the treatment of all tumor types in Japan, and all tumor types excluding prostate cancer in South Korea and Taiwan.
Heidelberg Pharma	Germany	Antibody-Drug-Conjugate (ADC) research collaboration on 2 targets and licensing agreement (α-amanitin payload and proprietary linker).
HUTCHMED	China	Exclusive licensing agreement with HUTCHMED (China) Limited and its subsidiary HUTCHMED Limited for the further development and commercialization of fruquintinib (TAK-113) in all indications, including metastatic colorectal cancer, outside of mainland China, Hong Kong and Macau.
Keros Therapeutics‡	U.S.	Exclusive licensing agreement with Keros Therapeutics, Inc. to further develop, manufacture and commercialize elritercept (TAK-226) worldwide outside of mainland China, Hong Kong and Macau.
KSQ Therapeutics	U.S.	Strategic collaboration to research, develop and commercialize novel immune-based therapies for cancer using KSQ's CRISPRomics® technology.
Kumquat Biosciences‡	U.S.	Strategic and exclusive collaboration to develop and commercialize a novel immuno-oncology small molecule inhibitor as a mono- and/or combination-therapy.
MD Anderson Cancer Center (MDACC)	U.S.	Exclusive license and research agreement to utilize MDACC's platform and expertise, and to leverage Takeda's development, manufacturing and commercialization capabilities to bring patients cord blood-derived chimeric antigen receptor-directed natural killer (CAR-NK) cell therapies for the treatment of B cell malignancies and other cancers. Takeda made a data-driven decision to discontinue the clinical development of TAK-007 for relapsed/refractory B cell malignancies.
Memorial Sloan Kettering Cancer Center	U.S.	Strategic research collaboration and license to develop novel chimeric antigen receptor T cell (CAR-T) products for the treatment of multiple myeloma, acute myeloid leukemia and additional solid tumor indications. The collaboration is co-led by Michel Sadelain, who is currently head of the Center for Cell Engineering at Memorial Sloan Kettering. Takeda decided to terminate further development of TAK-940 due to the pipeline prioritization considerations and Takeda's strategic focus on developing allogeneic cell therapies.
Pfizer	U.S.	Agreement for the joint development of ADCETRIS, an ADC technology which targets CD30 for the treatment of HL. Approved in more than 80 countries with ongoing clinical trials for additional indications.
Protagonist Therapeutics	U.S.	Worldwide license and collaboration agreement for the development and commercialization of rusfertide (TAK-121), an investigational injectable hepcidin mimetic peptide of the natural hormone hepcidin for treatment of polycythemia vera.
Teva Pharmaceutical Industries	Israel	Agreement for worldwide license to multi-target discovery collaboration accessing Teva's Attenukine™ platform.

Plasma Derived Therapies

Partner	Country of incorporation	Subject
Halozyme	U.S.	Agreement for the in-license of Halozyme's proprietary ENHANZE™ platform technology to increase dispersion and absorption of HYQVIA.
Kamada	Israel	In-license agreement to develop and commercialize IV Alpha-1 proteinase inhibitor (GLASSIA); Exclusive supply and distribution of GLASSIA in the U.S., Canada, Australia and New Zealand; work on post market commitments ongoing.
Johnson & Johnson/Momenta Pharmaceuticals	U.S.	In-licensing agreement with Momenta Pharmaceuticals, Inc. which was acquired by Johnson & Johnson for an investigational hypersialylated immunoglobulin (hsIgG) candidate.
PreviPharma	EU	Research collaboration and option agreement to develop new targeted proteins

Vaccines

Partner	Country of incorporation	Subject
Novavax	U.S.	Partnership for the development, manufacturing and commercialization of Nuvaxovid Intramuscular Injection, Novavax's COVID 19 vaccine in Japan, which is being funded by the Government of Japan's Ministry of Health, Labour and Welfare (MHLW) and Agency for Medical Research and Development (AMED). In September 2024, Takeda announced that the MHLW granted manufacturing and marketing approval for the 2 dose NUVAXOVID Intramuscular Injection 1 mL for the prevention of infectious disease caused by the SARS-CoV-2 Omicron JN.1 variant.

Other / Multiple Therapeutic Area

Partner	Country of incorporation	Subject
Center for iPS Cell Research Application, Kyoto University (CiRA)	Japan	Collaboration agreement for clinical applications of iPS cells in Takeda strategic areas including applications in neuroscience, oncology and gastroenterology as well as discovery efforts in additional areas of compelling iPSC translational science.
Charles River Laboratories	U.S.	Collaboration on multiple integrated programs across Takeda's core therapeutic areas using Charles River Laboratories' end-to-end drug discovery and safety assessment platform to progress these programs towards candidate status.
Code Bio	U.S.	Collaboration and license agreement for Takeda and Code Bio to design and develop a targeted gene therapy leveraging Code Bio's 3DNA platform for a liver-directed rare disease program, plus conduct additional studies for central nervous system-directed rare disease programs. Takeda has the right to exercise options for an exclusive license for four programs.
Evozyne	U.S.	Research collaboration and license agreement with Takeda to research and develop proteins that could be incorporated into next-generation gene therapies for up to four rare disease targets.
GSK	U.K.	In-license agreement between GSK and University of Michigan for TAK-620 (maribavir) in the treatment of human cytomegalovirus.
Ipsen	France	Purchase agreement for the development of Obizur for the treatment of Acquired Hemophilia A including for patients with Congenital Hemophilia A with inhibitors indication in elective or emergency surgery.
Massachusetts Institute of Technology	U.S.	MIT-Takeda Program to fuel the development and application of artificial intelligence (AI) capabilities to benefit human health and drug development. Centered within the Abdul Latif Jameel Clinic for Machine Learning in Health (J-Clinic), the new program will leverage the combined expertise of both organizations, and is supported by Takeda's investment.
Schrödinger	U.S.	Agreement for the multi-target research collaboration combining Schrödinger's in silico platform-driven drug discovery capabilities with Takeda's deep therapeutic area knowledge and expertise in structural biology.

Completed Partnerships [Update since April 1st, 2024]

Partner	Country of incorporation	Subject
JCR Pharmaceuticals	Japan	In June 2024, Takeda and JCR entered into an agreement ending the geographically-focused exclusive collaboration and license agreement to commercialize pabinafusp alfa (JR-141; TAK-141) in Hunter syndrome, following Takeda's strategic assessment of the alliance. JCR has been and remains the study sponsor for JR-141, and JCR plans to continue the Phase 3 trial for participating patients.
Codexis, Inc.	U.S.	Strategic collaboration and license for the research and development of novel gene therapies for certain disease indications, including the treatment of lysosomal storage disorders and blood factor deficiencies.
Noile-Immune Biotech	Japan	Collaboration agreement for the development of next generation CAR-T cell therapy, developed by Professor Koji Tamada at Yamaguchi University. Takeda has exclusive options to obtain licensing rights for the development and commercialization of Noile-Immune Biotech's pipeline and products resulting from this partnership. Due to the success of the collaboration, Takeda licensed NIB-102 and NIB-103. In December 2023, Takeda decided to terminate the further development of TAK-102 and TAK-103 due to the pipeline prioritization considerations and Takeda's strategic focus on developing allogeneic cell therapies. Termination discussion was completed in June, 2024. Takeda and Noile-Immune Biotech will maintain the ongoing business relationship in the field of cell therapy technology licensing other than TAK-102 and TAK-103.
Bridge Medicines	U.S.	Partnership with Sanders Tri-Institutional Therapeutics Discovery Institute, Bay City Capital and Deerfield Management in the establishment of Bridge Medicines. Bridge Medicines will give financial, operational and managerial support to move projects seamlessly from a validating, proof-of-concept study to an in-human clinical trial.
U.S. Government - The Biomedical Advanced Research and Development Authority (BARDA)	U.S.	Partnership to develop TAK-426, a Zika vaccine candidate, for the U.S. with the option to use data generated for filing also in affected regions around the world. Takeda decided to discontinue further development of TAK-426 and the partnership formally ended in September 2024.
Asklepios Biopharmaceuticals	U.S.	Agreement for multiple research and development collaborations using FVIII Gene Therapy for the treatment of Hemophilia A and B.
Wave Life Sciences	Singapore	Multi-program option agreement to co-develop and co-commercialize antisense oligonucleotides for a range of neurological diseases. In October 2024, Takeda made the decision not to exercise its option to co-develop and co-commercialize WVE-003. As a result of this decision, the collaboration with Wave has completed.
Nxera (formerly Sosei Heptares)	U.K.	Collaboration and License agreement to leverage Nxera's StaR® technology and structural biology expertise with GPCRs to enable structure based drug discovery to advance novel therapeutics for gastroenterology diseases.

■ Clinical study protocol summaries

Clinical study protocol summaries are disclosed on the English-language web-site (https://clinicaltrials.takeda.com/) and clinical study protocol information in the Japanese-language is disclosed on the Japanese-language web-site (https://www.takeda.com/ja-jp/who-we-are/research/clinical-trial/).

We anticipate that this disclosure will assure transparency of information on Takeda's clinical trials for the benefit of healthcare professionals, their patients and other stakeholders, which we believe will contribute to the appropriate use of Takeda's products worldwide.