Clinical Trial Summary

July 2023

Better Health, Brighter Future

Overview of Clinical Trials

	LCM[1]	NME[2]	
GASTROINTESTINAL AND INFLAMMATION	ENTYVIO IV GvHD Prophylaxis ENTYVIO SC UC/CD ENTYVIO IV Pediatric CD/UC ALOFISEL Complex Perianal Fistulas in CD, Pediatric CPF Vonoprazan *H. pylori* China	TAK-279 Active Psoriatic Arthritis Fazirsiran AATD Assoc. Liver Disease TAK-227 Active Celiac Disease Zamaglutenase Active Celiac Disease TAK-101 Celiac Disease	TAK-951 Nausea & Vomiting Maralixibat ALGS, PFIC
NEUROSCIENCE		Soticlestat DS, LGS Pabinafusp alfa Hunter Syndrome TAK-611 MLD (IT) TAK-861 Sleep Disorders, NT1, NT2 TAK-925 Postanesthesia Recovery	TAK-925 OIRD, OSA TAK-341 Multiple System Atrophy TAK-071 Parkinson's Disease TAK-594 Frontotemporal Dementia TAK-920 Alzheimer's Disease
ONCOLOGY	ICLUSIG CML ICLUSIG 1L Ph+ ALL NINLARO Maintenance ND MM post-SCT (MM3) NINLARO Maintenance ND MM no SCT (MM4) NINLARO In-class Transition (MM6)	EXKIVITY 2L NSCLC w/EGFR exon 20 Insertion Mutation EXKIVITY 1L NSCLC w/EGFR exon 20 Insertion Mutation TAK-007 CD19+ Heme Malignancies Subasumstat Multiple Cancers Subasumstat Solid Tumors, R/R Multiple Myeloma Modakafusp alfa Solid Tumors, R/R Multiple Myeloma TAK-676 Solid Tumors	TAK-500 Solid Tumors TAK-102 Solid Tumors TAK-103 Solid Tumors TAK-940 CD19+ Hematological Malignancies TAK-186 EGFR+ Solid Tumors TAK-280 B7-H3+ Solid Tumors TAK-012 AML
RARE GENETICS AND HEMATOLOGY	ADYNOVATE Pediatric Hemophilia A VONVENDI Pediatric vWD TAKHZYRO BMA, Pediatric HAE OBIZUR Acquired Hemophilia A	LIVTENCITY 1L CMV Infection after HSCT TAK-755 cTTP, iTTP, SCD Mezagitamab ITP, MG, IgAN	
PLASMA-DERIVED THERAPIES	HYQVIA PID, CIDP/MMN Japan TAK-881 PID CEPROTIN Congenital Protein C Deficiency Japan TAK-330 Prothromplex DOAC Reversal GLOVENIN-I AE Japan		
VACCINES	TAK-019 SARS-CoV-2 Vaccine Booster	TAK-003 Dengue Vaccine TAK-426 Zika Vaccine	

1. LCM: Life cycle management programs or marketed assets in development seeking new indications, new geographic expansions, fulfillment of regulatory requirements, new formulations/method of use, and/or enhancement in commercial/competitive profile.
2. NME: New molecular entity

Overview of Clinical Trials

GASTROINTESTINAL AND INFLAMMATION	3
RARE GENETICS AND HEMATOLOGY	46
NEUROSCIENCE	17
PLASMA-DERIVED THERAPIES	54
ONCOLOGY	28
VACCINES	61

ENTYVIO (VEDOLIZUMAB): *GUT-SELECTIVE ANTI-α4β7 INTEGRIN MAB*

Study	NCT03657160	NCT02620046
Indication	Graft-versus-Host Disease (GvHD) prophylaxis IV	Ulcerative Colitis (UC) or Crohn's disease (CD) subcutaneous (SC)
Phase	**Phase III**	**Phase III**
# of Patients	N = 343	N = 692
Target Patients	Patients undergoing allogeneic hematopoietic stem cell transplantation (Allo-HSCT) in the prophylaxis of intestinal acute GvHD (aGvHD)	Patients with UC or CD who received vedolizumab SC in a prior vedolizumab SC study – long-term open-label extension
Arms/Intervention	• **Arm 1:** Vedolizumab 300 mg at Days -1 (baseline), +13, +41, +69, +97, +125, and +153 • **Arm 2:** Placebo at Days -1 (baseline), +13, +41, +69, +97, +125, and +153	• **Group A:** Vedolizumab SC 108 mg Q2W - patients from studies VISIBLE 1 (NCT02611830) and VISIBLE 2 (NCT02611817) who completed the Maintenance Period (Week 52) or were not randomized into Maintenance Period and achieved response at Week 14 after having received a third vedolizumab IV infusion at Week 6 • **Group B:** Vedolizumab SC 108 mg QW - patients from studies VISIBLE 1 and VISIBLE 2 who withdrew early from the Maintenance Period due to treatment failure or patients from current study who enrolled on Q2W dosing but experienced treatment failure while on study and were dose escalated to QW dosing.
Primary endpoint and key secondary endpoint(s)	**Primary:** • Intestinal aGvHD-free survival by Day +180 after Allo-HSCT	**Primary:** • Percentage of participants with study drug related treatment emergent adverse events (AEs) and serious AEs **Key secondary:** • Long term clinical response and remission rates for UC and CD
Study start date	February 2019	April 2016

ENTYVIO (VEDOLIZUMAB):
GUT-SELECTIVE ANTI-α4β7 INTEGRIN MAB

Study	NCT04779320	NCT04779307
Indication	Crohn's disease in pediatric patients	Ulcerative colitis in pediatric patients
Phase	**Phase III**	**Phase III**
# of Patients	N = 120	N = 120
Target Patients	Pediatric patients with Crohn's disease between 2 to 17 years old at the time of randomization for Study NCT04779320	Pediatric patients with ulcerative colitis between 2 to 17 years old at the time of randomization for Study NCT04779307
Arms/ Intervention	**Induction period:** • Subjects ≥30 kg will receive open–label vedolizumab, 300 mg IV • Subjects >15 to <30kg open–label vedolizumab, 200 mg IV • Subjects 10 to 15 kg open–label vedolizumab 150 mg IV **Maintenance period:** • ≥30 kg weight cohort): Vedolizumab IV 300 mg or 150 mg (Q8W) • >15 <30 kg weight cohort: Vedolizumab IV 200 mg or 100 mg (Q8W) • 10 to 15 kg weight cohort: Vedolizumab IV 150 mg or 100 mg (Q8W	**Induction period:** • Subjects ≥30 kg will receive open–label vedolizumab, 300 mg IV • Subjects >15 to <30kg open–label vedolizumab, 200 mg IV • Subjects 10 to 15 kg open–label vedolizumab 150 mg IV **Maintenance period:** • ≥30 kg weight cohort): Vedolizumab IV 300 mg or 150 mg (Q8W) • >15 <30 kg weight cohort: Vedolizumab IV 200 mg or 100 mg (Q8W) • 10 to 15 kg weight cohort: Vedolizumab IV 150 mg or 100 mg (Q8W
Primary endpoint and key secondary endpoint(s)	**Primary:** • Co-primary 1 (based on PCDAI): Clinical remission at Week 54 • Co-primary 2 : Endoscopic response at Week 54 **Secondary:** • Clinical and endoscopic remission at Week 14 • Clinical and endoscopic remission at Week 54 • Sustained clinical and endoscopic remission at Week 54 • Corticosteroid-free remission at Week 54 • PK/AVA	**Primary:** • Clinical remission at Week 54, based on the modified Mayo score **Secondary:** • Clinical remission at Week 14 • Sustained clinical remission at Week 54 • Sustained endoscopic remission • Endoscopic response at Week 14 and at Week 54 • Corticosteroid-free clinical remission at Week 54 • PK/AVA
Study start date	April 2022	October 2021

ALOFISEL/CX601 (DARVADSTROCEL): *ALLOGENEIC EXPANDED ADIPOSE-DERIVED STEM CELLS (ASC)*

Study	NCT03279081
Indication	Complex perianal fistula(s) in patients with Crohn's disease
Phase	**Phase III** **ADMIRE-CD II**
# of Patients	N = 554
Target Patients	Patients with Crohn's disease who have complex perianal fistula(s), previously treated and have shown an inadequate response to immunosuppressants, anti TNF, ustekinumab
Arms/Intervention	• Arm 1: Cx601, adult allogeneic expanded adipose-derived stem cells (eASC 120 million cells (5 million cells per milliliter)) administered once by intralesional injection • Arm 2: Placebo-matching eASCs cells administered once by intralesional administration
Primary endpoint and key secondary endpoint(s)	**Primary:** Combined Remission, defined as: • The clinical assessment of closure of all treated external openings at week 24, and • Absence of collections >2 cm (in at least 2 dimensions) confirmed by blinded central MRI assessment at Week 24. **Key Secondary:** • Clinical Remission at weeks 24 and 52 • Time to Clinical Remission at weeks 24 and 52
Study start date	September 2017

ALOFISEL/CX601 (DARVADSTROCEL): *ALLOGENEIC EXPANDED ADIPOSE-DERIVED STEM CELLS (ASC)*

Study	NCT04701411
Indication	Complex Perianal Fistulas in Crohn's - Pediatric
Phase	**Phase III**
# of Patients	N = 20
Target Patients	Pediatric subjects with Crohn's Disease aged 4 to <18 years, with complex perianal fistula(s), whose perianal fistulas were previously treated and have shown an inadequate response.
Arms/Intervention	Open Label, Single Group Assignment: • Darvadstrocel (Cx601), 24 mL suspension of 120 million cells as a perilesional injection, once on Day 0
Primary endpoint and key secondary endpoint(s)	**Primary:** • To evaluate the efficacy of darvadstrocel in combined remission at Week 24 for the treatment of complex perianal fistula in pediatric subjects with CD aged 4 to <18 years. **Secondary:** • To evaluate the efficacy of darvadstrocel in clinical remission at Week 24 and Week 52 for the treatment of complex perianal fistula in pediatric subjects with CD aged 4 to <18 years. • To evaluate the efficacy of darvadstrocel in clinical response at Week 24 and Week 52 for the treatment of complex perianal fistula in pediatric subjects with CD aged 4 to <18 years. • To evaluate the efficacy of darvadstrocel in time to clinical remission up to Week 52 for the treatment of complex perianal fistula in pediatric subjects with CD aged 4 to <18 years. • To evaluate the efficacy of darvadstrocel in time to clinical response up to Week 52 for the treatment of complex perianal fistula in pediatric subjects with CD aged 4 to <18 years. • To evaluate the efficacy of darvadstrocel on relapse by Week 52 in pediatric subjects with combined remission at Week 24. • To evaluate the safety of darvadstrocel for the treatment of complex perianal fistula in pediatric subjects with CD aged 4 to <18 years over 52 weeks.
Study start date	June 2021

VONOPRAZAN:
POTASSIUM-COMPETITIVE ACID BLOCKER, ORAL

Study	NCT04198363
Indication	Acid related disease (adjunct to Helicobacter pylori eradication)
Phase	**Phase III** **China**
# of Patients	N = 510
Target Patients	Helicobacter pylori (HP)-positive participants who require HP eradication
Arms/Intervention	• Experimental: Vonoprazan 20 mg BID in combination with bismuth containing quadruple therapy for 2 weeks • Active Comparator: Esomeprazole 20 mg BID in combination with bismuth containing quadruple therapy for 2 weeks
Primary endpoint and key secondary endpoint(s)	**Primary:** • Percentage of Helicobacter pylori positive (HP+) participants with successful HP eradication at week 4 post-treatment
Study start date	April 2020

TAK-279 (NDI-034858):
TYK2 – INHIBITOR, ORAL

Study	NCT05153148
Indication	Active Psoriatic Arthritis
Phase	**Phase II**
# of Patients	N = 260
Target Patients	Participants with active psoriatic arthritis
Arms/Intervention	• Regimen 1: TAK-279 at a dose of 5 mg will be orally administered once daily (QD) for 12 weeks. • Regimen 2: TAK-279 at a dose of 15 mg will be orally administered once daily (QD) for 12 weeks. • Regimen 3: TAK-279 at a dose of 30 mg will be orally administered once daily (QD) for 12 weeks. • Regimen 4: Matching placebo, identical to TAK-279 but without active ingredient.
Primary endpoint and key secondary endpoint(s)	**Primary:** • Proportion of subjects achieving at least an American College of Rheumatology (ACR) 20 response [Time Frame: Day 1 to Week 16]
Study start	January 2022

FAZIRSIRAN (TAK-999): *ALPHA-1 ANTITRYPSIN SILENCING RNAI*

Study	NCT05677971
Indication	Alpha-1 Antitrypsin Deficiency Associated Liver Disease (AATD-LD)
Phase	**Phase III** **The Redwood Study**
# of Patients	N = 160
Target Patients	Patients with PiZZ AATD-LD with METAVIR stage F2, F3, or F4 liver fibrosis.
Arms/Intervention	• Arm 1: Fazirsiran subcutaneous injection at Day1, Week 4 and every 12 weeks thereafter • Arm 2: Placebo
Primary endpoint and key secondary endpoint(s)	**Primary:** • Reduction from baseline of at least 1 stage of histologic fibrosis METAVIR staging in the centrally read liver biopsy in AATD-LD with METAVIR stage F2 and F3 fibrosis. **Key Secondary:** • Evaluate the decrease in fibrosis in the centrally read liver biopsy in AATD-LD with METAVIR stage F2 – F4. • Evaluate the impact on progression in disease (liver related clinical event). • Evaluate changes from baseline in serum Z-AAT protein. • Evaluate changes from baseline in intrahepatic Z-AAT protein polymer burden. • Evaluate changes from baseline in portal inflammation. • Evaluate changes from baseline in liver stiffness with Vibration-Controlled Transient Elastography (VCTE). **Safety:** • Evaluate the safety and tolerability of Fazirsiran compared with placebo with an emphasis on central pulmonary function tests & CT densitometry yearly
Study start date	March 2023

ZED1227 / TAK-227:
TRANSGLUTAMINASE INHIBITOR, PO

Study	EudraCT: 2020-004612-97 [1]
Indication	Active Celiac Disease (symptoms and small intestinal mucosal injury consistent with active celiac disease despite a gluten free diet)
Phase	**Phase IIb**
# of Patients	N = 400
Target Patients	Adults with celiac disease, with incomplete response to the gluten-free diet.
Arms/Intervention	• Arm 1: TAK-227 10 mg three times daily, 30 minutes before each major meal • Arm 2: TAK-227 25 mg three times daily, 30 minutes before each major meal • Arm 3: TAK-227 50 mg once a day, 30 minutes before breakfast, Placebo capsules 30 minutes before lunch and before dinner • Arm 4: Placebo capsules three times daily 30 minutes before each major meal
Primary endpoint and key secondary endpoint(s)	**Primary:** • Improvement in histological findings AND Non-Stool GI Specific Symptom Score Change OR Diarrhoea Severity Score (both measured with Celiac Disease Symptom Diary (CDSD)) **Key Secondary:** • Change in histological findings; Change in CDSD GI Total Severity Score; Change in duodenal mucosal inflammation measured as the density of CD3-positive intraepithelial lymphocytes (IELs)
Study start date	August 2021

1. Trial managed by Dr. Falk Pharma GmbH, Germany

ZAMAGLUTENASE (TAK-062): *GLUTENASE, PO*

Study	NCT05353985
Indication	Active Celiac Disease (symptoms and small intestinal mucosal injury consistent with active celiac disease despite a gluten free diet)
Phase	**Phase II**
# of Patients	N = 377
Target Patients	Adults and adolescents with celiac disease, with incomplete response to the gluten-free diet.
Arms/Intervention	Cohort 1: • Arm 1: TAK-062 600 mg three times daily, plus thrice weekly study provided gluten exposure (approximately 500 mg gluten) • Arm 2: Placebo three times daily, plus thrice weekly study provided gluten exposure (approximately 500 mg gluten) Cohort 2: • Arm 1: TAK-062 placebo three times daily, plus thrice weekly study provided gluten exposure (approximately 500 mg gluten) • Arm 2: TAK-062 150 mg three times daily plus thrice weekly study provided gluten exposure (approximately 500 mg gluten) • Arm 3: TAK-062 300 mg three times daily plus thrice weekly study provided gluten exposure (approximately 500 mg gluten) • Arm 4: Placebo three times daily without study provided gluten exposure • Arm 5: TAK-062 600 mg three times daily without study provided gluten exposure • Arm 6: TAK-062 150mg three times daily without study provided gluten exposure
Primary endpoint and key secondary endpoint(s)	**Primary:** • Change in GI symptom severity score (Celiac disease symptom diary) **Key Secondary:** • Change in biopsy or histological findings using upper endoscopy
Study start date	December 2022

TAK-101:
NANOPARTICLE ENCAPSULATING GLIADIN, IV

Study	NCT04530123
Indication	Celiac Disease
Phase	**Phase II**
# of Patients	N = 108
Target Patients	Adult patients with history of biopsy-proven well-controlled celiac disease on a gluten-free diet for a minimum of 6 months.
Arms/Intervention	Cohort 1: • Group A: Two infusions doses of placebo on Days 1 and 8 + 1 infusion dose of 2 mg/kg TAK-101 at Week 24 • Group B: One infusion dose of 2 mg/kg TAK-101 on Day 1 followed by 1 infusion dose of placebo on Day 8 + 1 infusion dose of 2 mg/kg TAK-101 at Week 24 • Group C: Two infusion doses of 2 mg/kg TAK-101 placebo on Days 1 and 8 + 1 infusion dose of 2 mg/kg TAK-101 at Week 24 Cohort 2: • Group D: Two infusion doses of placebo on Days 1 and 8 + 1 infusion dose of 2 mg/kg TAK-101 at Week 24 • Group E: One infusion dose of 4 mg/kg TAK-101 on Day 1 followed by 1 infusion dose of placebo on Day 8 + 1 infusion dose of 4 mg/kg TAK-101 at Week 24 • Group F: Two infusion doses of 4 mg/kg TAK-101 on Days 1 and 8 + 1 infusion dose of 4 mg/kg TAK-101 at Week 24
Primary endpoint and key secondary endpoint(s)	**Primary:** • Reduction in Day 15 IFN-γ SFUs based on results of gliadin-specific ELISpot **Key secondary:** • Safety and tolerability as assessed by AEs, IRs, CRS, physical examinations, vital signs, and clinical laboratory testing, including liver tests. • Change in Celiac Disease Symptom Diary version 2.1 3-day average score from Day 1 to post-gluten challenge on Day 15 and Weeks 8, 14, and 20 • Change from pre- to 4 hours post-gluten challenge in plasma IL-2 on Day 15 and Weeks 8, 14, and 20
Study start date	August 2022

TAK-951:
PEPTIDE AGONIST, SC

Study	NCT04486950	NCT04557189
Indication	Nausea & Vomiting	Nausea & Vomiting
Phase	**Phase I**	**Phase IIa**
# of Patients	N = 40	N = 100
Target Patients	Healthy participants	Surgical patients under general anesthesia with 3 or more Apfel risk factors
Arms/Intervention	• Cohort 1: TAK-951 20 mcg or matching placebo infusion (intravenous (IV)) over 60 minutes • Cohort 2: TAK-951 (dose TBD) or matching placebo infusion (IV) over 60 minutes • Cohort 3: TAK-951 (dose TBD) or matching placebo infusion (IV) < 60 minutes	• Group A: Ondansetron placebo-matching intravenous (IV) injection, once immediately before induction of anesthesia and prophylaxis followed by TAK-951 4 mg subcutaneous (SC) injection once 30 to 45 mins before the end of surgery; • Group B: Ondansetron IV 4 mg once immediately before induction of anesthesia followed by TAK-951 placebo-matching injection SC administered 30 to 45 minutes before the end of surgery
Primary endpoint and key secondary endpoint(s)	**Primary:** • Safety and tolerability of IV administered TAK-951 in healthy participants	**Primary:** • Percentage of Participants With Complete Response in the Immediate Postoperative Period [Time Frame: 6 hours post-surgery (Day 1)
Study start date	July 2020	October 2020

MARALIXIBAT (TAK-625):
IBAT (ILEAL BILE ACID TRANSPORTER) INHIBITOR

Study	NCT05543174
Indication	Alagille Syndrome (ALGS)
Phase	**Phase III** **Japan**
# of Patients	N = 5
Target Patients	Patients with Alagille Syndrome
Arms/Intervention	TAK-625 200 mcg per kilogram, orally, once daily for 1 week. After that, TAK-625 400 mcg per kilogram, orally, once daily after Week 1

Primary endpoint and key secondary endpoint(s)	**Primary:**
	• Change of Fasting Serum Bile Acid (sBA) Levels from Week 18 to Week 22
	Key Secondary:
	• Change from baseline to Week 18:
	  • Fasting sBA levels.
	  • Pruritus as measured by ItchRO (Obs): weekly average severity (based on daily maximum of morning and evening severity scores).
	  • Pruritus as measured by ItchRO (Obs): weekly average morning severity.
	• Change from Week 18 to 22:
	  • Pruritus as measured by ItchRO (Obs): weekly average severity (based on daily maximum of morning and evening severity scores).
	  • Pruritus as measured by ItchRO (Obs): weekly average morning severity.

Study start date	January 2023

MARALIXIBAT (TAK-625):
IBAT (ILEAL BILE ACID TRANSPORTER) INHIBITOR

Study	NCT05543187
Indication	Progressive Familial Intrahepatic Cholestasis (PFIC)
Phase	**Phase III** **Japan**
# of Patients	N = 9
Target Patients	Patients with Progressive Familial Intrahepatic Cholestasis
Arms/Intervention	Primary: TAK-625 orally, twice daily (BID) for 4 weeks as Dose Escalation Period. The dose in Dose Escalation Period will be increased weekly, 150 mcg/kilograms (kg), 300 mcg/kg, 450 mcg/kg, and 600 mcg/kg. After Dose Escalation Period, TAK-625 600 mcg/kg (or maximum tolerated dose [MTD]), orally, BID up to study completion Supplemental: TAK-625 orally, twice daily (BID) for 4 weeks as Dose Escalation Period. The dose in Dose Escalation Period will be increased weekly, 150 mcg/kilograms (kg), 300 mcg/kg, 450 mcg/kg, and 600 mcg/kg. After Dose Escalation Period, TAK-625 600 mcg/kg (or maximum tolerated dose [MTD]), orally, BID up to study completion
Primary endpoint and key secondary endpoint(s)	**Primary:** • Change in the Average Morning ItchRO (Obs) Severity Score between Baseline and Average of Week 15 through Week 26 **Key Secondary:** • Change in the Average Morning ItchRO (Obs) Frequency Score between Baseline and Average of Week 15 through Week 26 • Change of Total sBA Levels from Baseline to Week 26 • Percentage of Participants who Achieve sBA Well Control from Baseline through Week 26 • Change in the ItchRO (Obs) Weekly Average Severity between Baseline and Average of Week 15 through Week 26
Study start date	January 2023

Overview of Clinical Trials

GASTROINTESTINAL AND INFLAMMATION	3
RARE GENETICS AND HEMATOLOGY	46
NEUROSCIENCE	17
PLASMA-DERIVED THERAPIES	54
ONCOLOGY	28
VACCINES	61

SOTICLESTAT (TAK-935): *CH24H INHIBITOR, ORAL*

Neuroscience

Study	NCT04940624	NCT04938427
Indication	Dravet Syndrome (DS)	Lennox–Gastaut Syndrome (LGS)
Phase	**Phase III**	**Phase III**
# of Patients	N = 142	N = 234
Target Patients	Dravet Syndrome patients 2-21 years of age with ≥4 convulsive seizures per 28 days during the 4–6-week prospective Baseline Period	Lennox-Gastaut Syndrome patients 2-55 years of age with ≥8 Major Motor Drop (MMD) seizures per 28 days during the 4–6-week prospective Baseline Period
Arms/Intervention	• 142 DS subjects (1:1 soticlestat:placebo randomization ratio)	• 234 LGS subjects (1:1 soticlestat:placebo randomization ratio)
Primary endpoint and key secondary endpoint(s)	**Primary:** Percent change from baseline in convulsive seizure frequency per 28 days in subjects receiving soticlestat compared with placebo during the full treatment period (Maintenance period for EMA registration). • Proportion of responders defined as those with ≥50% reduction from baseline in convulsive seizures • Percent change from baseline in frequency of all seizures • CGI-I (clinician). • Care GI-I (caregiver). • CGI-I Seizure Intensity and Duration. • CGI-I Non-seizure Symptoms. • Change in QI-Disability score.	**Primary** : Percent change from baseline in MMD seizure frequency per 28 days in subjects receiving soticlestat compared with placebo during the full treatment period (Maintenance period for EMA registration). • Proportion of responders defined as those with ≥50% reduction from baseline in MMD seizures • Percent change from baseline in frequency of all seizures • CGI-I (clinician). • Care GI-I (caregiver). • CGI-I Seizure Intensity and Duration. • CGI-I Non-seizure Symptoms. • Change in QI-Disability score.
Study start date	September 2021	October 2021

PABINAFUSP ALFA (TAK-141):
RECOMBINANT FUSION OF PROTEIN IDURONATE-2-SULFATASE

Neuroscience

Study	NCT04573023[1]
Indication	Treatment of neuronopathic features and somatic symptoms of Hunter syndrome (mucopolysaccharidosis II)
Phase	**Phase III**
# of Patients	N = 80
Target Patients	Cohort A: neuronopathic MPS II patients between 30 and 71 months of age Cohort B: non-neuronopathic (attenuated) MPS II patients 6 years and older
Arms/Intervention	Experimental arm: pabinafusp alfa 2.0 mg/kg/week SOC arm: idursulfase
Primary endpoint and key secondary endpoint(s)	**Primary:** • Change in levels of cerebrospinal fluid heparan sulfate from baseline • Change in the raw scores of cognitive testing measured from baseline (BSID-III) **Secondary:** • Change in the growth scores of cognitive testing measured from baseline (BSID-III) • Change in the age equivalent scores of adaptive behavior measured from baseline (VABS-II) • Relative change in liver volume relative to body weight from baseline • Relative change in spleen volume relative to body weight from baseline • Relative change in distance walked using the 6-minute walk test from baseline to Week 53
Study start date	February 2022

1. Trial managed by JCR Pharmaceuticals, Japan

TAK-611:
RHASA[1] ENZYME REPLACEMENT THERAPY FOR MLD, INTRATHECAL (IT)

Study	NCT01887938	NCT03771898
Indication	Treatment of patients with motor symptoms in Metachromatic Leukodystrophy (MLD)	Treatment of patients with motor symptoms in Metachromatic Leukodystrophy (MLD)
Phase	**Phase I/II Extension Trial (of HGT-MLD-070)**	**Registration Enabling Phase IIb**
# of Patients	N = 23	N = 42
Target Patients	Children with Metachromatic Leukodystrophy (MLD)	Late Infantile Metachromatic Leukodystrophy (MLD)
Arms/Intervention	Open Label with 4 Cohorts: • Cohort 1 – 10 mg dose level • Cohort 2 – 30 mg dose level • Cohort 3 – 100 mg dose level • Cohort 4 – 100 mg dose level (Process B)	Open Label with 6 Groups: • Group A - GMFC-MLD level of 1 or 2 • Group B - GMFC-MLD level of 3 • Group C - GMFC-MLD level of 4 • Group D - younger siblings of enrolled subjects, and have the same ASA allelic constitution • Group E - GMFC-MLD level of 1 or 2 (≥12 to <18 mons of age) • Group F - GMFC-MLD level of 5 or 6
Primary endpoint and key secondary endpoint(s)	**Primary:** Safety will be measured by the following endpoints: • Reporting of treatment-emergent adverse events (TEAEs) • Change from baseline in clinical laboratory testing (serum chemistry including liver function tests, hematology, and urinalysis) • Change from baseline in vital signs, physical examinations, and CSF chemistry (including cell counts, glucose, albumin, and protein) • Determination of the presence of anti-HGT-1110 antibodies in CSF and/or serum	**Primary:** The primary efficacy endpoint is response in Group A, defined as maintenance of gross motor function at 2 years (Week 106), evaluated as no greater than 2 levels decline from baseline in GMFC-MLD. If suitable controls cannot be matched despite the sponsor's best efforts, change from baseline results of GMFC-MLD at Week 106 may be compared with a prespecified objective threshold to evaluate primary efficacy for this study.
Study start date	May 2013	May 2019

1. rhASA = recombinant human arylsulfatase A

TAK-861:
OREXIN 2R AGONIST, ORAL

Neuroscience

Study	JRCT2071210007	NCT05687903	NCT05687916
Indication	Sleep disorders	Narcolepsy Type 1	Narcolepsy Type 2
Phase	**Phase I**	**Phase IIb**	**Phase IIb**
# of Patients	N = 263	N= 100	N= 60
Target Patients	Healthy volunteers, Participants with narcolepsy type 1 (NT1)	Participants with Narcolepsy Type 1	Participants with Narcolepsy Type 2
Arms/Intervention	• **Part A:** SRD in Japanese Healthy Adults • **Part B:** MRD in Japanese Healthy Adults • **Part C:** Multiple Dose in Japanese Healthy Elderly Participants • **Part D**: MRD in Japanese and Non-Japanese Participants with NT1	• TAK-861 Dose 1 • TAK-861 Dose 2 • TAK-861 Dose 3 • TAK-861 Dose 4 • Placebo	• TAK-861 Dose 1 • TAK-861 Dose 2 • Placebo
Primary endpoint and key secondary endpoint(s)	**Primary:** • Number of Participants Reporting one or More Treatment-emergent Adverse Events (TEAEs) • Number of Participants With at Least one Markedly Abnormal Value (MAV) for Laboratory Assessments Post-dose • Number of Participants With at Least one MAV for Vital Signs Post-dose • Number of Participants With at Least one MAV for Electrocardiograms (ECGs) Post-dose **Secondary:** • Pharmacokinetic parameters of TAK-861	**Primary:** • Change from Baseline to Week 8 in Mean Sleep Latency **Secondary:** • Change from Baseline to Week 8 in Epworth Sleepiness Scale (ESS) Total Score • Weekly Cataplexy Rate at Week 8	**Primary:** • Change from Baseline to Week 8 in Mean Sleep Latency **Secondary:** • Change from Baseline to Week 8 in Epworth Sleepiness Scale (ESS) Total Score
Study start date	April 2021	January 2023	January 2023

TAK-925:
OREXIN 2R AGONIST, IV

Neuroscience

Study	NCT05025397	ISRCTN63027076	NCT05180890
Indication	Postanesthesia recovery	Opioid-induced respiratory depression (OIRD)	Obstructive Sleep Apnea (OSA)
Phase	**Phase I**	**Phase I**	**Phase I**
# of Patients	N = 28	N = 16	N = 18
Target Patients	Healthy volunteers	Healthy volunteers	Patients With Obstructive Sleep Apnea
Arms/Intervention	• Cohort A1: TAK-925 Low Dose • Cohort A2: TAK-925 Middle Dose • Cohort A3: TAK-925 High Dose • Cohort P: TAK-925 TBD	• Low dose • High dose • Placebo	• Low dose • High dose • Placebo
Primary endpoint and key secondary endpoint(s)	**Primary:** • Number of Participants With at Least one Treatment-emergent Adverse Event (TEAE) **Secondary:** • Observed Plasma Concentration at the end of Infusion for Danavorexton • Area Under the Plasma Concentration-time Curve From Time 0 to the Time of the Last Quantifiable Concentration for Danavorexton • Area Under the Plasma Concentration-time Curve From Time 0 to Infinity for Danavorexton	**Primary:** • Number of Participants With at Least one Treatment-emergent Adverse Event (TEAE) **Secondary:** • Observed plasma concentration at the end of infusion (Ceoi) • Area under the plasma concentration-time curve from time 0 to time of the last quantifiable concentration (AUClast) • Area under the plasma concentration-time curve from time 0 to infinity (AUC∞)	**Primary:** • Number of Participants With at Least one Treatment-emergent Adverse Event (TEAE) **Secondary:** • Change From Baseline in Upper Airway Collapsibility Index (UACI) • Apnea-Hypopnea Index (AHI) Observed During Overnight Polysomnographys (PSGs)
Study start date	September 2021	March 2021	March 2022

TAK-925:
OREXIN 2R AGONIST, IV

Neuroscience

Study	NCT05814016
Indication	Postanesthesia Recovery
Phase	**Phase IIa**
# of Patients	N = 180
Target Patients	Moderate to severe obstructive sleep apnea patients undergoing general anesthesia for abdominal surgery
Arms/Intervention	Danavorexton high dose Danavorexton low dose Placebo
Primary endpoint and key secondary endpoint(s)	**Primary:** • Number of Participants who Maintain Respiratory Stability for 120 Minutes in the Postanesthesia Care Unit **Secondary (selected):** • Number of Episodes of Respiratory Instability per Participant Within 120 Minutes in the PACU • PK parameters • Number of Participants with At Least One Occurrence of Treatment-Emergent Adverse Events
Study start date	May 2023

TAK-341:
ALPHA-SYNUCLEIN ANTIBODY, IV

Neuroscience

Study	NCT05526391
Indication	Multiple System Atrophy
Phase	**Phase II**
# of Patients	N = 138
Target Patients	Patients With Multiple System Atrophy
Arms/Intervention	PK Cohort (n=15) Q4wk IV infusion of TAK-341 or Placebo (4:1) Q4wk IV infusion of TAK-341 or Placebo (1:1)
Primary endpoint and key secondary endpoint(s)	**Primary:** • Change from Baseline in a Modified Unified Multiple System Atrophy Rating Scale Part I at Week 52 **Secondary (selected):** • PK parameters • Change From Baseline in Scales for Outcomes in Multiple System Atrophy - Autonomic Dysfunction Total Score and Clinical Global Impression-Severity Score
Study start date	November 2022

TAK-071:
M1 PAM, ORAL

Neuroscience

Study	NCT04334317
Indication	Parkinson's Disease
Phase	**Phase II**
# of Patients	N = 54
Target Patients	Parkinson's Disease patients with cognitive impairment and an elevated risk of falls

Arms/Intervention	• Participants aged 40 to less than or equal to (<=) 85 years will be randomly assigned to one of the two treatment sequences in a crossover design:
	  • TAK-071 7.5 mg + Placebo
	  • Placebo + TAK-071 7.5 mg
	• A sentinel cohort in healthy volunteers (n=10) will provide PK and safety data, to extend the enrollment to patients in older age groups.

Primary endpoint and key secondary endpoint(s)	**Primary:** • Change from Baseline in Gait Variability during a 2-minute Dual-Task Walking Test **Key Secondary:** • Change from Baseline in Global Cognition Profile • PK
Study start date	October 2020

TAK-594:
PROGRANULIN PTV, IV AND SC

Neuroscience

Study	NCT05262023[1]
Indication	Frontotemporal Dementia
Phase	**Phase I/II**
# of Patients	N = 106 (estimated)
Target Patients	Healthy volunteers / Participants with FTD
Arms/Intervention	• **Part A:** SRD in Healthy Participants • **Part B:** Multiple doses in participants with symptomatic FTD harboring the GRN mutation • **Part C:** optional 18-month OLE period available for all participants who complete Part B
Primary endpoint and key secondary endpoint(s)	**Primary:** • Incidence, severity, and seriousness of treatment-emergent adverse events (TEAEs) • Incidence of treatment-emergent clinically significant abnormalities in safety laboratory values • Change from baseline in vital sign measurements (systolic and diastolic blood pressure, heart rate, respiratory rate, body temperature) • Change from baseline in electrocardiogram (ECG) results including PR, QRS, and QTcF intervals • Incidence of treatment-emergent clinically significant abnormalities in physical/neurological examination findings • Change from baseline in Columbia-Suicide Severity Rating Scale (C-SSRS; Parts B and C only) **Secondary:** • Serum PK
Study start date	February 2022

1. Trial managed by Denali

TAK-920:
TREM2 ATV, IV

Neuroscience

Study	NCT05450549[1]
Indication	Alzheimer's disease
Phase	**Phase I**
# of Patients	N = 80 (estimated)
Target Patients	Healthy volunteers
Arms/Intervention	• SRD in Healthy Participants
Primary endpoint and key secondary endpoint(s)	**Primary:** • Incidence, severity, and seriousness of treatment-emergent adverse events **Secondary:** • Serum PK
Study start date	July 2022

1. Trial managed by Denali

Overview of Clinical Trials

GASTROINTESTINAL AND INFLAMMATION	3
NEUROSCIENCE	17
ONCOLOGY	28
RARE GENETICS AND HEMATOLOGY	46
PLASMA-DERIVED THERAPIES	54
VACCINES	61

ICLUSIG (PONATINIB): *BCR-ABL INHIBITOR*

Study	NCT02467270	NCT03589326
Indication	Chronic myeloid leukemia (CML)	Ph+ acute lymphoblastic leukemia (ALL)
Phase	**Phase II** **OPTIC**	**Phase III** **Ph+ALLCON**
# of Patients	N = 276	N = 230 (max)
Target Patients	Patients with resistant chronic phase chronic myeloid leukemia	Patients with newly-diagnosed Ph+ ALL
Arms/Intervention	• Ponatinib 45 mg once daily • Ponatinib 30 mg once daily • Ponatinib 15 mg once daily	• Cohort A: Ponatinib/reduced intensity chemotherapy until progressive disease (PD) or stem cell transplant (SCT) • Cohort B: Imatinib/reduced intensity chemotherapy until PD or SCT
Primary endpoint and key secondary endpoint(s)	**Primary:** Percentage of Participants With Molecular Response (MR2: <=1% Breakpoint Cluster Region-Abelson Transcript Level) as Measured by the International Scale (BCR-ABL1IS) at Month 12 [Time Frame: 12 months after the first dose of study treatment]	**Primary:** • Number of participants with Minimal Residual Disease (MRD) - Negative Complete Remission (CR) [Time frame: From Cycle 1 through Cycle 3 (approximately 3 months) (Cycle length is equal to 28 days)] **Secondary:** • EFS
Study start date	August 2015	January 2019

NINLARO (IXAZOMIB):
ORAL PROTEASOME INHIBITOR

Study	NCT02181413	NCT02312258
Indication	Multiple myeloma (MM) maintenance post-stem cell transplant	Multiple myeloma (MM) maintenance non-stem cell transplant
Phase	**Phase III** **TOURMALINE-MM3**	**Phase III** **TOURMALINE-MM4**
# of Patients	N = 652	N = 706
Target Patients	Patients with multiple myeloma following autologous stem cell transplant	Patients with newly-diagnosed MM not treated with stem cell transplantation
Arms/Intervention	Arm A: Ixazomib • Cycles 1-4: Ixazomib 3.0 mg PO days 1, 8, 15 / 28-day cycle • Cycles 5-26: Ixazomib 3.0 or 4.0 mg PO days 1, 8, 15 / 28-day cycle Arm B: Placebo • Cycles 1-4: Placebo 3.0 mg PO days 1, 8, 15 / 28-day cycle • Cycles 5-26: Placebo 3.0 or 4.0 mg PO days 1, 8, 15 / 28-day cycle	Arm A: Ixazomib • Cycles 1-4: Ixazomib 3.0 mg PO days 1, 8, 15 / 28-day cycle • Cycles 5-26: Ixazomib 3.0 mg or 4.0 mg PO days 1, 8, 15 / 28-day cycle Arm B: Placebo • Cycles 1-4: Placebo 3.0 mg PO days 1, 8, 15 / 28-day cycle • Cycles 5-26: Placebo 3.0 or 4.0 mg PO days 1, 8, 15 / 28-day cycle
Primary endpoint and key secondary endpoint(s)	**Primary:** • Progression Free Survival (PFS) **Secondary:** • Overall Survival (OS)	**Primary:** • Progression Free Survival (PFS) **Secondary:** • Overall Survival (OS)
Study start date	July 2014	April 2015
Publications	• Dimopoulos MA, et al. Lancet. 2019 Jan 19;393(10168): 253-264 • Goldschmidt H, et al. Leukemia. 2020 Nov;34(11): 3019-3027 • Dimopoulos MA, et al., Presentation at ASH 2021	• Dimopoulos MA, et al. https://ascopubs.org/doi/full/10.1200/JCO.20.02060 • Paiva B, et al., Presentation at EHA 2021 • Dimopoulos MA, et al., Presentation at ASH 2021

NINLARO (IXAZOMIB):
ORAL PROTEASOME INHIBITOR

Oncology

Study	NCT03173092
Indication	Non-transplant eligible patients with newly diagnosed multiple myeloma
Phase	**Phase IV** **MM6**
# of Patients	N = 160
Target Patients	Patients with multiple myeloma previously receiving a bortezomib-based induction. In-class (proteasome inhibitor) transition after 3 cycles of bortezomib-based therapy.
Arms/Intervention	• Ixazomib 4 mg + lenalidomide 25 mg + dexamethasone 40 mg • Transition from a bortezomib based regimen to IRD (ixazomib, lenalidomide, dexamethasone) may allow the long-term proteasome inhibition to be maximized while maintaining a manageable safety profile.
Primary endpoint and key secondary endpoint(s)	**Primary:** Progression Free Survival (PFS). **Key secondary:** Time to next therapy (TTNT), relative dose intensity (RDI) of the oral regimen, overall survival (OS), electronic patient reported outcomes (ePRO) and actigraphy (activity/sleep) data.
Study start date	September 2017
Publications	• Girnius, et al., Presentation at ASH 2020 • Lyons RM, et al., Presentation at COMy 2021 • Rifkin, RM, et al., Presentation at ASH 2021

EXKIVITY (MOBOCERTINIB): *EGFR/HER2 EXON 20 INHIBITOR*

Oncology

Study	NCT02716116	NCT04129502
Indication	2L NSCLC exon 20 insertion mutation	1L NSCLC exon 20 insertion mutation
Phase	**Registration enabling Phase I/II** **EXCLAIM**	**Phase III** **EXCLAIM-2**
# of Patients	N = 334	N = 354
Target Patients	2L+ NSCLC harboring EGFR in-frame exon 20 insertion mutations	1L NSCLC harboring EGFR in-frame exon 20 insertion mutations
Arms/Intervention	• Single arm: Mobocertinib 160 mg QD	• Arm A: Mobocertinib 160 mg QD • Arm B: Platinum-based chemotherapy
Primary endpoint and key secondary endpoint(s)	**Primary:** Confirmed ORR assessed by IRC **Key secondary:** DoR as assessed by IRC	**Primary:** PFS as assessed by blinded Independent Review Committee (IRC) **Key secondary:** OS
Study start date	June 2016	January 2020
Publication	Zhou C. et al, JAMA Oncology, doi:10.1001/jamaoncol.2021.4761	

TAK-007:
CD19 CAR NK

Oncology

Study	NCT05020015
Indication	Relapsed refractory B-lymphoid malignancies NCT05020015
Phase	**Phase II**
# of Patients	N = 242
Target Patients	Patients with relapsed and refractory CD19+ B lymphoid malignances
Arms/Intervention	• Fludarabine 30 mg/m^2 by vein on days -5 to -3 • Cyclophosphamide 300 mg/m^2 by vein on days -5 to -3 • TAK-007 (iC9/CAR.19/IL15-Transduced CB-NK Cells): Infusion of TAK-007 on Day 0 by vein • Part 1: Dose escalation with 2 dose levels: 2x10E8 and 8x10E8 followed by expansion cohorts • Part 2: LBCL and iNHL cohorts with TAK-007 RP2D
Primary endpoint and key secondary endpoint(s)	**Primary**: • Phase 1: Safety and tolerability • Phase 2: Efficacy, Overall Response Rate (ORR)
Study start date	November 2021

SUBASUMSTAT (TAK-981): *SUMO-ACTIVATING ENZYME[1] INHIBITOR*

Oncology

Study	NCT03648372
Indication	Solid tumors, hematologic malignancies
Phase	**Phase I/II**
# of Patients	N = 109
Target Patients	Adult participants with advanced or metastatic solid tumors or relapsed/refractory hematologic malignancies
Arms/Intervention	• Phase 1: Escalating doses of TAK-981 with a starting dose of 3 mg intravenous (IV) infusion on Days 1, 4, 8, and 11 on a 21-day treatment cycle. Alternative schedule: TAK-981 on Days 1 and 8 on a 21-day schedule. • Phase 2: TAK-981 90 mg IV infusion for 3 cycles on Days 1, 4, 8 and 11 on a 21-day cycle with the option to taper to Days 1 and 8 every 21-days with agreement from investigator and sponsor.
Primary endpoint and key secondary endpoint(s)	**Primary:** • Phase 1: Safety, tolerability and PK • Phase 2: Efficacy, Overall Response Rate (ORR)
Study start date	October 2018

1. SUMO = Small ubiquitin-like modifier

SUBASUMSTAT (TAK-981): *SUMO-ACTIVATING ENZYME[1] INHIBITOR*

Oncology

Study	NCT04381650	NCT04776018
Indication	Solid tumors	Multiple Myeloma
Phase	**Phase Ib/II**	**Phase Ib/II**
# of Patients	N = 231	N = 27
Target Patients	Patients with select advanced or metastatic solid tumors	Patients with relapsed and/or refractory multiple myeloma

Arms/Intervention	• Phase 1b: Escalating doses of TAK-981 with starting dose of 40 mg intravenous (IV) infusion, in 3 different dosing regimens (Days 1, 4, 8, and 11; Days 1 and 8; and Days 1, 8, and 15) and pembrolizumab 200 mg IV infusion as a fixed dose every 3 weeks in a 21-day cycle.
	• Phase 2:
	  • TAK-981 90 mg IV infusion with an induction period of at least 3 cycles on Days 1, 4, 8 and 11 on a 21-day cycle with the option to taper to Days 1 and 8 every 21-days with agreement from investigator and sponsor in combination with pembrolizumab 200 mg IV infusion every 21 days; or
	  • TAK-981 120 mg IV infusion (1 cohort) on Days 1 and 8 of each 21-day cycle.
		• Phase 1b: Escalating doses of TAK-981 in combination with fixed doses of mezagitamab or daratumumab and hyaluronidase-fihj. Each 28-day treatment cycle will consist of TAK-981 administered intravenous (IV) with a starting dose of 60 mg in one of the following schedules:
		  • BIW on Days 1, 4, 8, 11, and 15 during Cycles 1 and 2, then once every 2 weeks during Cycles 3 through 6, followed by monthly dosing, OR
		  • QW on Days 1, 8, 15, 22 during Cycles 1 and 2, then once every 2 weeks during Cycles 3 through 6, followed by monthly dosing thereafter until PD
		• Phase 2: TAK-981 at RP2D IV infusion in combination with an anti-CD38 antibody (mezagitamab or daratumumab and hyaluronidase-fihj) at each 28-day treatment cycle for a maximum of 24 cycles. A schedule will be selected for continued evaluation based on data from Phase 1b.

Primary endpoint and key secondary endpoint(s)	**Primary:** • Phase 1b: Safety and tolerability • Phase 2: Efficacy, Overall Response Rate (ORR)	**Primary:** • Phase 1b: Safety, tolerability and RP2D • Phase 2: Efficacy, Overall Response Rate (ORR)
Study start date	August 2020	April 2021

1. SUMO = Small ubiquitin-like modifier

MODAKAFUSP ALFA (TAK-573):
ANTI-CD38/ATTENUATED IFNα FUSION PROTEIN

Oncology

Study	NCT04157517	NCT03215030
Indication	Solid tumors	Relapsed/refractory multiple myeloma
Phase	**Phase I/II**	**Phase I/II**
# of Patients	N = 114	N = 387
Target Patients	Patients with locally advanced or metastatic solid tumors	Patients with relapsed/refractory multiple myeloma
Arms/Intervention	• TAK-573 0.1 to 6 milligram per kilogram (mg/kg), infusion, intravenously, once on Day 1 of each 21-days treatment cycle for up to 1 year. • Phase 2 Dose Expansion in combination with pembrolizumab: ➢ Unresectable/metastatic cutaneous melanoma with primary resistance or acquired resistance to no more than 2 prior lines of anti-PD1 containing treatments. ➢ Unresectable/metastatic cutaneous melanoma naïve to prior anti-PD1 containing treatments.	• Part 1 cohort: TAK-573 0.001 to 14 milligram per kilogram (mg/kg), infusion, intravenously, once on Days 1, 8, 15 and 22 of each 28-day treatment cycle up to 1 year. • Part 2 cohort: TAK-573 early efficacy assessment as a single agent at selected dose. Participants in at least 1 cohort will receive TAK-573 and dexamethasone 40 mg, orally, once weekly of each 28-day treatment cycle until treatment discontinuation. • Part 3 cohort: Randomized Phase 2 of TAK-573 to select the monotherapy dose between RP2D and MTD defined in part 2.
Primary endpoint and key secondary endpoint(s)	**Primary:** • Phase 1: Safety and tolerability • Phase 2: Efficacy, Overall Response Rate (ORR)	Part 1/2: **Primary:** Safety and tolerability. **Key secondary**: Efficacy Part 3: **Primary:** Efficacy, Overall Response Rate (ORR)
Study start date	December 2019	October 2017

MODAKAFUSP ALFA (TAK-573):
ANTI-CD38/ATTENUATED IFNα FUSION PROTEIN

Oncology

Study	NCT05556616	NCT05590377
Indication	Relapsed/refractory multiple myeloma	Relapsed/refractory multiple myeloma
Phase	**Phase I**	**Phase I/II**
# of Patients	N = 144	N = 58
Target Patients	Patients with relapsed/refractory multiple myeloma	Patients with relapsed/refractory multiple myeloma
Arms/Intervention	• Group 1 (NDMM Maintenance) – Arm 1: Modakafusp alfa + Lenalidomide • Group 2 (RRMM Doublets): – Arm 2: Modakafusp alfa + Pomalidomide; arm 3: Modakafusp alfa + Bortezomib; arm 4: Modakafusp alfa + Carfilzomib • Group 3 RRMM Triplets): – arm A: Modakafusp alfa + Pomalidomide + Bortezomib; arm B: Modakafusp alfa + Carfilzomib + Pomalidomide; arm C: Modakafusp alfa + Daratumumab + Carfilzomib; arm D: Modakafusp alfa + Daratumumab + Pomalidomide	• Modakafusp alfa 60 to 240 mg, infusion, intravenously, once every 4 weeks (Q4W) with daratumumab 1800 mg, subcutaneously (SC), once weekly (QW) in Cycles 1 and 2, twice weekly (Q2W) in Cycles 3 to 6, and Q4W thereafter in each 28-day treatment cycle until disease progression • Phase 2 Dose Expansion: Randomize Modakafusp Alfa into 2 different doses of interest, defined at the end of escalation.
Primary endpoint and key secondary endpoint(s)	**Primary:** • Safety and tolerability. **Key secondary:** • Efficacy	**Primary:** Phase1: Safety and tolerability
Study start date	January 2023	January 2023

TAK-676:
STING AGONIST

Oncology

Study	NCT04420884	NCT04879849
Indication	Solid tumors	Solid tumors
Phase	**Phase I/II**	**Phase I**
# of Patients	N = 336	N = 35
Target Patients	• Dose escalation (Part 1): Adult patients with advanced or metastatic solid tumors • Expansion cohorts (Parts 2 and 3): 1. Adult patients with SCCHN 1L PD-L1+ or SCCHN 1L all comers 2. Adult patients with 3L+ MSI-H/dMMR CRC or 3L MSS/pMMR CRC	Adult patients with advanced or metastatic solid tumors
Arms/Intervention	Part 1: • Arm 1: Dose escalating single agent TAK-676, starting with safety lead-in at 0.1 mg IV on Days 1, 8, 15 in 21-day cycles, and capping at 2.5 mg IV on Days 1, 8 and 15 in a 21-day cycle. • Arm 2: Dose escalating TAK-676 along above parameters in combination with fixed dose pembrolizumab at 200mg IV administered on D1 in a 21-day cycle. Parts 2 and 3: • TAK-676 at RP2D level on Days 1, 8, and 15 in 21-day treatment cycles with fixed dose pembrolizumab at 200mg IV administered on D1 in a 21-day cycle. Part 2B only - starting with safety lead-in, addition of carboplatin/cisplatin and 5-FU on D1 in 21-day cycle.	• Image-guided radiation therapy between Day -8 and Day -1 followed by fixed dose pembrolizumab at 200 mg IV administered on D1 of a 21-day cycle in combination with dose escalating TAK-676, starting at 0.2 mg IV and capping at 2.5 mg IV on Days 1, 8 and 21 in a 21-day cycle.
Primary endpoint and key secondary endpoint(s)	**Primary:** Safety and tolerability **Secondary:** Recommended Phase 2 dose (RP2D), overall response rate (ORR), progression free survival (PFS), overall survival (OS)	**Primary:** Safety and tolerability **Secondary:** Recommended Phase 2 dose (RP2D), overall response rate (ORR)
Study start date	August 2020	July 2021

TAK-500:
STING AGONIST ANTIBODY DRUG CONJUGATE

Oncology

Study	NCT05070247
Indication	Solid tumors
Phase	**Phase I/II**
# of Patients	N = 321
Target Patients	Dose escalation: - adult patients with advanced or metastatic solid tumors Expansion cohorts: - adult patients with locally advanced or metastatic non-squamous 2L and 3L NSCLC, 3L RCC, or 2L PDAC.
Arms/Intervention	• Arm 1: Dose escalating single agent TAK-500 starting at 8 microgram per kilogram (mcg/kg), infusion, intravenously, once on Day 1 of each 21-days treatment cycle, once every 3 weeks (Q3W), for up to 1 year • Arm 2: Dose escalating TAK-500, infusion, intravenously, once on Day 1 of each 21-days treatment cycle (Q3W), along with pembrolizumab 200 milligram (mg) infusion, intravenously, once on Day 1 of each 21-days treatment cycle (Q3W), for up to 1 year
Primary endpoint and key secondary endpoint(s)	**Primary:** • Safety and tolerability, overall response rate (ORR). **Secondary:** • PK parameters, progression free survival (PFS), overall survival (OS).
Study start date	April 2022

TAK-102:
GPC3 CAR-T

Oncology

Study	NCT04405778[1]
Indication	Solid tumors
Phase	**Phase I**
# of Patients	N = 18
Target Patients	Adult patients with GPC3-expressing previously treated solid tumors
Arms/Intervention	• Cohort 1: 1 × 10^7 CAR (+) cells/body [starting dose] • Cohort 2: 1 × 10^8 CAR (+) cells/body • Cohort 3: 1 × 10^9 CAR (+) cells/body
Primary endpoint and key secondary endpoint(s)	**Primary:** • Incidence of dose-limiting toxicities, treatment-emergent adverse events (AEs) and AEs of clinical interest
Study start date	July 2020

1. In collaboration with Noile-Immune Biotech Inc. Enrollment in Japan.

TAK-103:
MESOTHELIN CAR-T

Oncology

Study	NCT05164666[1]
Indication	Solid tumors
Phase	**Phase I**
# of Patients	N = 21
Target Patients	Adult patients with mesothelin-expressing advanced or metastatic solid tumors
Arms/Intervention	• Cohort -2: 1 x 10^6 CAR (+) cells/body [starting dose at resumption] • Cohort -1: 3 x 10^6 CAR (+) cells/body • Cohort 1: 1 x 10^7 CAR (+) cells/body [starting dose] • Cohort 2: 1 x 10^8 CAR (+) cells/body • Cohort 3: 5 x 10^8 CAR (+) cells/body
Primary endpoint and key secondary endpoint(s)	**Primary:** • Incidence of dose-limiting toxicities, treatment-emergent adverse events (AEs) and AEs of clinical interest
Study start date	January 2022

1. In collaboration with Noile-Immune Biotech Inc. Enrollment in Japan.

TAK-940:
CD19 CAR-T

Oncology

Study	NCT04464200[1]
Indication	Relapsed/refractory B-cell cancers
Phase	**Phase I**
# of Patients	N = 28
Target Patients	Adult patients with relapsed or refractory CD19+ B lymphoid malignancies
Arms/Intervention	19(T2)28z1xx CAR T cells Cohorts of 3-6 patients will be infused with escalating doses of 19(T2)28z1xx CAR T cells to establish the RP2D. There are 4 planned flat-dose levels: 25x10^6, 50 x 10^6, 100 x 10^6, and 200 x 10^6 CAR T cells and one de-escalation dose: 12.5 x 10^6 CAR T cells. A standard 3+3 dose escalation design will be implemented starting from dose 1. Dose escalation will be followed by dose expansion.
Primary endpoint and key secondary endpoint(s)	**Primary:** • Safety and Recommended Phase 2 dose (RP2D) **Secondary:** • Efficacy and CK
Study start date	August 2020

1. Trial managed by Memorial Sloan Kettering Cancer Center

TAK-186:
T-CELL ENGAGER

Oncology

Study	NCT04844073
Indication	Solid tumors
Phase	**Phase I/II**
# of Patients	N = 228
Target Patients	Patients with unresectable, locally advanced or metastatic cancer
Arms/Intervention	Single-arm, open label, MVC-101 (also known as TAK-186) - An EGFR x CD3 Conditional Bispecific Redirected Activation (COBRA) Protein This Phase 1/2, open-label study will characterize safety, dose-limiting toxicities (DLTs), and maximum tolerated / recommended phase 2 dose (MTD/RP2D) of TAK-186. Dose escalation will occur in a 1+3 and then 3+3 design in patients with advanced solid tumors. Once the dose levels for expansion are determined, a Cohort Expansion Phase will be enrolled to further characterize safety and initial antitumor activity in patients with HNSCC, CRC or NSCLC.
Primary endpoint and key secondary endpoint(s)	**Primary:** • Safety based upon incidence of treatment-emergent adverse events. **Secondary:** • Pharmacokinetics, Pharmacodynamics, Immunogenicity measured by plasma anti-drug antibodies, and Radiographic anti-tumor activity
Study start date	March 2021

TAK-280:
T-CELL ENGAGER

Oncology

Study	NCT05220098
Indication	Solid tumors
Phase	**Phase I/II**
# of Patients	N = 142-182
Target Patients	Patients with unresectable, locally advanced or metastatic cancer
Arms/Intervention	Single-arm, open label, TAK-280 - An B7-H3 x CD3 Conditional Bispecific Redirected Activation (COBRA) Protein This Phase 1/2, open-label study will characterize safety, dose-limiting toxicities (DLTs), and maximum tolerated/ recommended dose for the expansion phase into solid tumor indications Dose escalation will utilize a BOIN design in patients with advanced solid tumors. Once the recommended doses for expansion (RDEs) is determined, people living with metastatic NSCLC, mCRPC and cutaneous melanoma will be enrolled in the cohort expansion phase, to further characterize safety and initial antitumor activity.
Primary endpoint and key secondary endpoint(s)	**Primary:** • Tolerability and Safety based upon incidence of treatment-emergent adverse events. **Secondary:** • Pharmacokinetics, Pharmacodynamics, Immunogenicity measured by incidence, titer and neutralizing potential of anti-drug antibodies, and radiographic anti-tumor activity.
Study start date	May 2022

TAK-012:
NON-ENGINEERED CELL THERAPY

Oncology

Study	NCT05886491[1]
Indication	Relapsed/refractory acute myeloid leukemia (AML)
Phase	**Phase I/IIa**
# of Patients	N = 53
Target Patients	Adult patients with relapsed or refractory acute myeloid leukemia
Arms/Intervention	• During Phase 1 (sequential dose escalation), participants will be assigned to one of the following treatment groups each consisting of 3 to 6 participants to receive TAK-012 at one of the three dose levels: Dose 1, Dose 2, Dose 3. • Upon completion of Phase 1, 1 to 2 dose levels will be selected for Phase 2a of the study. At the completion of Phase 2a of the study, a single dose may be selected by the sponsor and investigators as the recommended phase 2 dose (RP2D) for future study.
Primary endpoint and key secondary endpoint(s)	**Primary:** • Incidence of dose-limiting toxicities, treatment-emergent adverse events (AEs) and AEs of clinical interest
Study start date	July 2023

1. Trial actively recruiting

Overview of Clinical Trials

GASTROINTESTINAL AND INFLAMMATION	3
RARE GENETICS AND HEMATOLOGY	46
NEUROSCIENCE	17
PLASMA-DERIVED THERAPIES	54
ONCOLOGY	28
VACCINES	61

ADYNOVATE (TAK-660): *PEGYLATED RECOMBINANT FACTOR VIII*

Study	NCT02615691
Indication	Hemophilia A
Phase	**Phase III**
# of Patients	N = 120
Target Patients	Previously untreated patients (PUPs) < 6 years with severe hemophilia A (FVIII < 1%)
Arms/Intervention	• Single group assignment
Primary endpoint and key secondary endpoint(s)	**Primary:** Determine safety including immunogenicity of Adynovate (TAK-660/BAX 855) based on the incidence of inhibitor development to FVIII (≥ 0.6 Bethesda unit (BU)/mL using the Nijmegen modification of the Bethesda assay). Safety 1. To determine the immunogenicity of Adynovate in terms of binding IgG and IGM antibodies to FVIII, PEG-FVIII and PEG 2. To determine the safety of Adynovate based on adverse events (AEs) and serious adverse events (SAEs) Hemostatic Efficacy 3. To assess the efficacy of prophylactic treatment with Adynovate 4. To characterize the efficacy of Adynovate in the control of bleeding episodes Pharmacokinetics 6. To determine the incremental recovery (IR) of Adynovate at baseline and over time 7. To determine half-life of Adynovate at baseline (optional)
Study start date	November 2015

VONVENDI (TAK-577): *RECOMBINANT VON WILLEBRAND FACTOR*

Study	NCT02932618
Indication	Pediatric On-demand and Elective Surgery
Phase	**Phase III**
# of Patients	N = 27 (On-demand) N = 12 (Elective Surgery)
Target Patients	Severe von Willebrand Disease
Arms/Intervention	• Arm A: On-demand • Arm B: Elective and emergency surgery
Primary endpoint and key secondary endpoint(s)	**Primary:** • Hemostatic efficacy and safety of rVWF, with or without ADVATE, in the treatment and control of nonsurgical bleeding events **Key secondary:** • Hemostatic efficacy assessed after the last perioperative rVWF infusion
Study start date	October 2016

TAKHZYRO (LANADELUMAB): *PLASMA KALLIKREIN (PKAL) INHIBITOR*

Study	NCT04070326	NCT04206605
Indication	Hereditary angioedema (HAE) pediatric	Non-histaminergic angioedema with normal C1-Inhibitor
Phase	**Phase III SPRING**	**Phase III CASPIAN**
# of Patients	N = 20	N = 75
Target Patients	Type I and Type II hereditary angioedema, ages 2 to <12 yo	Non-histaminergic bradykinin-mediated angioedema (BMA) with normal C1-inhibitor
Arms/Intervention	• Lanadelumab 150mg; q4wks ages 2 to < 6, q2wks ages 6 to <12 yo	• Lanadelumab 300mg q2wks
Primary endpoint and key secondary endpoint(s)	**Primary:** • Safety and pharmacokinetics **Key secondary:** • Clinical outcomes, pharmacodynamics	**Primary:** • Number of investigator-confirmed angioedema attacks during the treatment period of Day 0 through Day 182 **Key secondary:** • Number of participants achieving attack-free status during the treatment period of Day 0 through Day 182
Study start date	August 2019	August 2020
Publication	Maurer M. et al., European Academy of Allergy and Clinical Immunology (EAACI) Congress 2022	

OBIZUR (TAK-672): *PORCINE COAGULATION FACTOR VIII (RECOMBINANT)*

Study	NCT04580407
Indication	Acquired Hemophilia A (AHA)
Phase	**Phase II/III**
# of Patients	N = 5
Target Patients	Japanese subjects ≥18 years of age with AHA
Arms/Intervention	• Single group assignment
Primary endpoint and key secondary endpoint(s)	**Primary:** • Evaluate the efficacy and safety of TAK-672 for the treatment of serious bleeding events in Japanese subjects with AHA.
Study start date	November 2021

LIVTENCITY (MARIBAVIR):
ORAL VIRAL PROTEIN KINASE INHIBITOR

Study	NCT02927067
Indication	Treatment of CMV infection in Hematopoietic Stem Cell Transplant Recipients
Phase	**Phase III**
# of Patients	N = 550
Target Patients	Treatment of asymptomatic CMV infection in stem cell transplant patients
Arms/Intervention	Arm A: Maribavir Arm B: Valganciclovir
Primary endpoint and key secondary endpoint(s)	**Primary:** • Confirmed clearance of plasma CMV DNA (CMV viremia clearance) at the end of Study Week 8 **Secondary:** • Maintenance of confirmed CMV viremia clearance achieved at the end of Study Week 8 through Week 16 having received exclusively a study-assigned treatment.
Study start date	April 2017
Publication	Phase 2: Maertens J, et al. N. Engl J Med 2019;381:1136-47

TAK-755:
REPLACEMENT OF THE DEFICIENT ADAMTS13 ENZYME

Study	NCT03393975	NCT05714969	NCT03997760
Indication	Congenital Thrombotic Thrombocytopenic Purpura (cTTP)	Immune Thrombotic Thrombocytopenic Purpura (iTTP)	Sickle Cell Disease
Phase	**Phase III**	**Phase IIb**	**Phase I**
# of Patients	N = up to 68	N = 40	N = 20
Target Patients	Patients diagnosed with severe cTTP in prophylactic and on-demand treatment	Adult patients diagnosed with iTTP experiencing an acute event	Adult patients with sickle cell disease at baseline health

Arms/Intervention	Prophylaxis Treatment Cohort: 6 + 6 months cross over of TAK-755 vs SoC followed by 6 months TAK-755 extension
	• **Arm 1:** TAK-755 followed by SOC
	• **Arm 2:** SOC followed by TAK-755
	(Patients are also eligible to enter the prophylaxis study upon completion of acute treatment)
		• **Acute Phase:**
		  • **Arm 1:** TAK-755 40 IU/kg BID
		  • **Arm 2:** TAK-755 80 IU/kg BID
		• **Post-acute Phase:**
		  • 80 IU/Kg 2-3x weekly (3 – 6-week duration)
			• TAK-755 (three dose levels) or placebo administered at baseline health

Primary endpoint and key secondary endpoint(s)	**Primary:** • Incidence of acute TTP episodes in subjects receiving prophylactic treatment with either TAK-755 or SoC.	**Primary:** • Incidence of adverse events, serious adverse events, and adverse events of special interest. **Secondary:** • Achievement of clinical response without on-study plasma exchange.	**Primary:** • Safety and incidence of binding and inhibitory antibodies to ADAMTS13
Study start date	October 2017	March 2023	October 2019

MEZAGITAMAB (TAK-079): *ANTI-CD38 ANTIBODY*

Study	NCT04278924	NCT04159805	NCT05174221
Indication	Persistent/Chronic Primary Immune Thrombocytopenia (ITP)	Myasthenia Gravis	IgA Nephropathy (IgAN)
Phase	**Phase II**	**Phase II**	**Phase Ib**
# of Patients	N = 54	N = 36	N = 16
Target Patients	Patients ≥18 years of age with persistent/chronic primary ITP	Patients ≥18 years of age with generalized Myasthenia Gravis	Patients ≥18 years of age with primary IgA Nephropathy in combination with stable background medication

Arms/Intervention	• Part A: 2 dose groups and placebo added to stable background therapy
	  • Arm A1: Matching placebo (n=8-12 pts)
	  • Arm A2: TAK-079 100 mg (n=8-12 pts)
	  • Arm A3: TAK-079 300 mg (n=8-12 pts)
	• Part B: Following interim analysis. 1 dose group and placebo (600 mg) added to stable, standard background therapy.
	  • Arm B1: Matching placebo (n=4- 6 pts)
	  • Arm B2: TAK-079 600 mg (n=8-12 pts)
		• 2 dose groups and placebo added to stable background therapy
		  • TAK-079 300 mg (n = 12 patients)
		  • TAK-079 600 mg (n = 12 patients)
		  • Matching placebo (n = 12 patients)
			• TAK-079 600 mg subcutaneous injection, once weekly for 8 weeks then once every 2 weeks for 16 weeks in the Main Study.
			• Same dosing regimen will be repeated in Long-term extension (LTE) Retreatment Period.

Primary endpoint and key secondary endpoint(s)	**Primary**: • Percentage of patients with TEAEs including Grade 3 or higher events, SAEs, and AEs leading to TAK-079 discontinuation.	**Primary:** • Percentage of patients with TEAEs including Grade 3 or higher events, SAEs, and AEs leading to TAK-079 discontinuation.	**Primary**: • Percentage of participants with one or more TEAEs, Grade 3 or Higher TEAEs, SAEs, and AEs leading to TAK-079 discontinuation.
Study start date	November 2020	January 2020	July 2022

Overview of Clinical Trials

GASTROINTESTINAL AND INFLAMMATION	3
RARE GENETICS AND HEMATOLOGY	46
NEUROSCIENCE	17
PLASMA-DERIVED THERAPIES	**54**
ONCOLOGY	28
VACCINES	61

HYQVIA (TAK-771): *IMMUNE GLOBULIN INFUSION 10% (HUMAN) WITH RECOMBINANT HUMAN HYALURONIDASE*

PDT

Study	NCT05150340	NCT05084053
Indication	Primary Immunodeficiency Diseases (PID)	Chronic Inflammatory Demyelinating Polyradiculoneuropathy (CIDP) Multifocal Motor Neuropathy (MMN)
Phase	**Phase III**	**Phase III**
# of Patients	N = 15	N = 21
Target Patients	Japanese persons ages 2 and older with primary immunodeficiency diseases	Japanese persons ages 18 and older with definite or probable CIDP or MMN
Arms/Intervention	• Experimental: Epoch 1: TAK-771 Ramp up Period Participants will receive subcutaneous infusion of rHuPH20 solution at a dose of 80 U/g IgG first, followed by SC infusion of 10% IGI within 10 minutes of completion of the infusion of rHuPH20 solution. The dose of 10% IGI will be increased from 1/3 of full dose to full dose in 3 weeks for participants who will receive TAK-771 once every 3 week, or from 1/4 of full dose to full dose in 6 weeks for participants who will receive TAK-771 once every 4 week. • Experimental: Epoch 2: TAK-771 Treatment Period Participants will receive subcutaneous infusion of rHuPH20 solution at a dose of 80 U/g IgG first, followed by SC infusion of 10% IGI within 10 minutes of completion of the infusion of rHuPH20 solution, every 3, or 4 weeks for up to Week 24.	• Cohort 1 (TAK-771 for CIDP Participants): - rHuPH20 SC dose of 80 U/g IgG followed by SC infusion of 10% IGI within 10 min of completion of infusion of rHuPH20 solution, every 2,3,4 weeks • Cohort 2 (TAK-771 for MMN Participants): - rHuPH20 SC dose of 80 U/g IgG followed by SC infusion of 10% IGI within 10 min of completion of infusion of rHuPH20 solution, every 2,3,4 weeks
Primary endpoint and key secondary endpoint(s)	**Primary**: Serum trough levels of total IgG antibodies after administration of TAK-771 **Secondary:** PK, safety and tolerability, efficacy, and disease activity and HRQoL.	**Primary:** % of participants with CIDP who experience relapse in 6 months; change in maximum grip strength in the more affected hand in 6 months for MMN participants **Secondary:** safety, and CIDP/MMN health-related metrics.
Study start date	March 2022	January 2022

HYQVIA (TAK-771): *IMMUNE GLOBULIN INFUSION 10% (HUMAN) WITH RECOMBINANT HUMAN HYALURONIDASE*

PDT

Study	NCT05513586
Indication	Primary Immunodeficiency Diseases (PID)
Phase	**Phase III**
# of Patients	N = 10
Target Patients	Japanese persons ages 2 and older with primary immunodeficiency diseases
Arms/Intervention	• This study is an extension study for participants with primary immunodeficiency disorders who were previously treated with TAK-771 in the TAK-771-3004 study. They must have completed that study or be about to complete it before joining this study. Participants will continue treatment with TAK-771 in this study. • The main aim of this study is to check for side effects from long-term treatment with TAK-771. This medicine is not yet licensed in Japan, so participants will be treated with TAK-771 until it becomes commercially available.
Primary endpoint and key secondary endpoint(s)	**Primary:** • Percentage of Participants with Treatment-Emergent Adverse Events (TEAEs) [Time Frame: Up to 3 years] TEAEs are defined as AEs with onset after date-time of first dose of investigational drug or medical conditions present prior to the start of investigational drug but increased in severity or relationship after date-time of first dose of investigational drug. • Percentage of Participants who Develop Anti-rHuPH20 Binding Antibody Titers of Greater Than or Equal to 1:160 and who Develop Neutralizing Antibodies to rHuPH20 [Time Frame: Up to 3 years]
Study start date	September 2022

TAK-881 (FACILITATED SCIG 20%): *IMMUNE GLOBULIN SC (HUMAN), 20% SOLUTION WITH RECOMBINANT HUMAN HYALURONIDASE*

PDT

Study	NCT05755035
Indication	Primary Immunodeficiency Diseases (PIDD)
Phase	**Phase III**
# of Patients	N = 61
Target Patients	Participants aged 2 and older with PIDD
Arms/Intervention	Experimental: Randomized Crossover Treatment Epoch: TAK-881 followed by HYQVIA (Sequence 1) • Participants aged >=16 years will receive 4 or 5 full doses of TAK-881 followed by 4 or 5 full doses HYQVIA in sequence 1 Experimental: Randomized Crossover Treatment Epoch: HYQVIA followed by TAK-881 (Sequence 2) • Participants aged >=16 years will receive 5 full doses of HYQVIA followed by 4 or 5 full doses of TAK-881 in Sequence 2 Experimental: Non-Randomized Treatment Epoch: TAK-881 • Participants aged 2 to <16 years will receive 4 to 5 full doses of TAK-881.
Primary endpoint and key secondary endpoint(s)	**Primary:** • Area Under the Curve during the dosing Interval at steady-state (AUC0-tau;ss) of TAK-881 and HYQVIA in Participants Aged >=16 years With PIDD **Key Secondary:** • Maximum Concentration (Cmax) of TAK-881 and HYQVIA at Steady-State in Participants Aged >=16 years With PIDD • Time to Maximum Concentration (Tmax) of TAK-881 and HYQVIA at Steady-State in Participants Aged >=16 years With PIDD • Number of Participants With Treatment-Emergent Adverse Events (TEAEs) • Number of Participants With Infusion Withdrawals, Interruptions, and Infusion Rate Reductions due to TAK-881-related TEAEs • Number of Participants With Positive Binding Antibodies (Titer Greater than and equal to [>=] 1:160) to rHuPH20 • Number of Participants With Positive Neutralizing Antibodies to rHuPH20
Study start date	Expected start in Q3 FY23

CEPROTIN (TAK-662): *PROTEIN C CONCENTRATE*

PDT

Study	NCT04984889
Indication	Congenital protein C deficiency
Phase	**Phase I/II**
# of Patients	N = 5
Target Patients	Japanese participants with congenital protein C deficiency
Arms/Intervention	Open label, Single-dose of IV Ceprotin (80 IU/kg) over 15 minutes in day 1; extension part, dose of TAK-662 will be modified per participant.
Primary endpoint and key secondary endpoint(s)	**Primary:** • Protein C activity, Terminal Phase Elimination Half-life (t1/2), Incremental recovery (IR), In-vivo recovery (IVR) , AUC, Cmax, Tmax **Secondary:** • Number of Participants with Treatment-Related Adverse Experiences (AEs) ; evaluation of short-term and long-term prophylaxis in extension part
Study start date	August 2021

TAK-330: *PROTHROMPLEX*

PDT

Study	NCT05156983
Indication	Coagulation Disorder: Reversal of Direct Oral Factor Xa Inhibitor-induced Anticoagulation
Phase	**Phase III**
# of Patients	N = 328
Target Patients	Patients >18 years of age currently on Factor Xa inhibitor requiring urgent surgery/invasive procedure
Arms/Intervention	Adaptive parallel group sequential design Participants will receive PROTHROMPLEX TOTAL 25 international unit per kilogram (IU/kg) single intravenous infusion on Day 1 (prior to surgery). An additional dose of 25 IU/kg PROTHROMPLEX TOTAL can be administered during the surgery if deemed necessary by the surgeon. The total dose of PROTHROMPLEX TOTAL administered to the participant should not exceed 50 IU/kg or 5,000 IU, whichever is smaller. Active Comparator: 4F-PCC. Participants will receive 4F-PCC (excluding Prothromplex total and activated 4F-PCC) as SOC on Day 1 (prior to surgery). The dose and infusion speed of the SOC 4F-PCC will be based on local institutional protocols. An additional dose of SOC 4F-PCC not exceeding label specified limits can be given during the surgery if required. Intervention: Prothromplex total 25 IU/kg single IV on day 1 and an additional dose of 25 IU/kg if required
Primary endpoint and key secondary endpoint(s)	**Primary:** • Occurrence of intraoperative effective hemostasis assessed at the end of the surgery/invasive procedure based on the surgeon's assessment using the Four Point Intraoperative Hemostatic Efficacy Scale **Key Secondary:** • Occurrence of postoperative effective hemostasis assessed at 24 hours after the end of investigational product infusion (TAK-330 or comparator 4F-PCC) based on the surgeon's assessment using the Four Point Postoperative Hemostatic Efficacy Scale. • Occurrence of intraoperative effective hemostasis assessed at the end of the surgery/invasive procedure based on the surgeon's assessment using the Hemostatic Efficacy Rating Algorithm. • Safety/tolerability and other measures
Study start date	August 2022

GLOVENIN-I (TAK-961):

IMMUNE GLOBULIN INFUSION 5% (HUMAN)

PDT

Study	NCT05177939
Indication	Autoimmune Encephalitis (AE)
Phase	**Phase III**
# of Patients	N = 40
Target Patients	Japanese Subjects with Autoimmune Encephalitis Refractory to Steroid Pulse Therapy
Arms/Intervention	• Drug: NPB-01NPB-01 will be administered for the treatment of autoimmune encephalitis Other Name: Intravenous immunoglobulin • Drug: NPB-01-MENPB-01-ME will be administered for the treatment of autoimmune encephalitis Other Name: methylprednisolone sodium succinate
Primary endpoint and key secondary endpoint(s)	**Primary:** • The change in CASE score at each time point after the start of treatment with investigational product compared with that on Day 8 of the pretreatment period will be compared between the arms. Changes in CASE scores divided into three segments (0 -4: excellent, 5 -9: moderate, 10 -27: poor) will also be compared. In addition, the period until CASE score becomes 4 points or less after the start of treatment with investigational product will be checked. **Secondary:** • Changes in mRS at each time point after the start of investigational product treatment compared with Day 8 of the pretreatment period will be compared between the arms. • To compare the change in GCS at each time point after the start of investigational product with that on Day 8 of the pretreatment period between the arms. • The change in MMSE-J at each time point after the start of investigational product as compared with Day 8 of the pretreatment period will be compared between the arms. • The change in FAB at each time point after the start of investigational product as compared with Day 8 of the pretreatment period will be compared between the arms.
Study start date	April 2022

Overview of Clinical Trials

GASTROINTESTINAL AND INFLAMMATION	3
NEUROSCIENCE	17
ONCOLOGY	28
RARE GENETICS AND HEMATOLOGY	46
PLASMA-DERIVED THERAPIES	54
VACCINES	61

TAK-019: *RECOMBINANT SPIKE PROTEIN NANOPARTICLE VACCINE*

Vaccines

Novavax vaccine (with Matrix-M™ adjuvant), NVX-CoV2373, now known as Nuvaxovid Intramuscular Injection

Study	NCT05299359
Indication	Prevention of infectious disease caused by Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2)
Phase	**Phase III**
# of Patients	N = 150
Target Patients	Healthy Japanese male and female adults aged 20 years and older Participants who completed 2 doses primary vaccinations COMIRNATY intramuscular injection 6 to 12 months prior to the trial vaccination can take part in this study
Arms/Intervention	• Single dose of TAK-019 0.5 mL, intramuscular in all participants • Immunogenicity will be measured at Day 1, 8, 15, 29, 91, 181 and 366 • The study will include 12-months safety follow-up
Primary endpoint and key secondary endpoint(s)	**Primary**: • Evaluate the immunogenicity and safety of a single heterologous booster vaccination of TAK-019
Study start date	April 2022

TAK-003: *LIVE ATTENUATED TETRAVALENT VACCINE FOR PREVENTION OF DENGUE DISEASE*

Study	NCT02747927
Indication	The prevention of dengue fever of any severity caused by any dengue virus serotype in individuals 4 years to 60 years of age
Phase	**Phase III** **Tetravalent Immunization against Dengue Efficacy Study (TIDES)**
# of Patients	N = 20,100
Target Patients	Healthy children aged 4 to 16-year-old in dengue-endemic countries in Latin America and Asia
Arms/Intervention	• Randomized 2:1 to receive either TAK-003 or placebo on Day 1 and Day 90
Primary endpoint and key secondary endpoint(s) to be met per Trial Protocol	**Primary:** • ≥70% efficacy against all symptomatic dengue fever caused by any strain **Secondary:** • ≥70% efficacy individual strains • ≥60% efficacy in seronegatives **Safety:** • Comparable to other live attenuated viral vaccines (e.g., MMR, YF, Varicella) • No disease enhancement in partially protected individuals
Study start date	September 2016
Publication	• Biswal S, et al. N Engl J Med. 2019; 381:2009-2019. Biswal S, et al. Lancet. 2020; 395(10234):1423-1433. • López-Medina E, et al. The Journal of Infectious Diseases. 2020. • Biswal S, et al. Clinical Infectious Disease. 2021

TAK-426:
PURIFIED INACTIVATED ZIKA VIRUS VACCINE PIZV

Study	NCT03343626
Indication	For active immunization for prevention of disease caused by Zika virus (ZIKV)
Phase	**Phase I**
# of Patients	N = 271 (125 in flavivirus naïve subjects and 146 in flavivirus exposed subjects)
Target Patients	Healthy Adult Participants aged 18-49-years of age
Arms/Intervention	• Placebo: TAK-426 placebo-matching injection, intramuscular, once on Days 1 and 29 • Low Dose: PIZV 2 microgram (mcg) (PIZV 0.5 milliliter (mL), 2 mcg antigen, injection, intramuscular, once on Days 1 and 29) • Medium Dose: PIZV 5 mcg (PIZV 0.5 mL, 5 mcg antigen, injection, intramuscular, once on Days 1 and 29) • High Dose: PIZV 10 mcg (PIZV 0.5 mL, 10 mcg antigen, injection, intramuscular, once on Days 1 and 29)
Primary endpoint and key secondary endpoint(s)	**Primary:** Safety, immunogenicity and dose ranging study
Study start date	November 2017
Publication	Han H, et al. *Lancet*. 2021.

Better Health, Brighter Future

© 2023 Takeda Pharmaceutical Company Limited. All rights reserved.