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INNOVATION

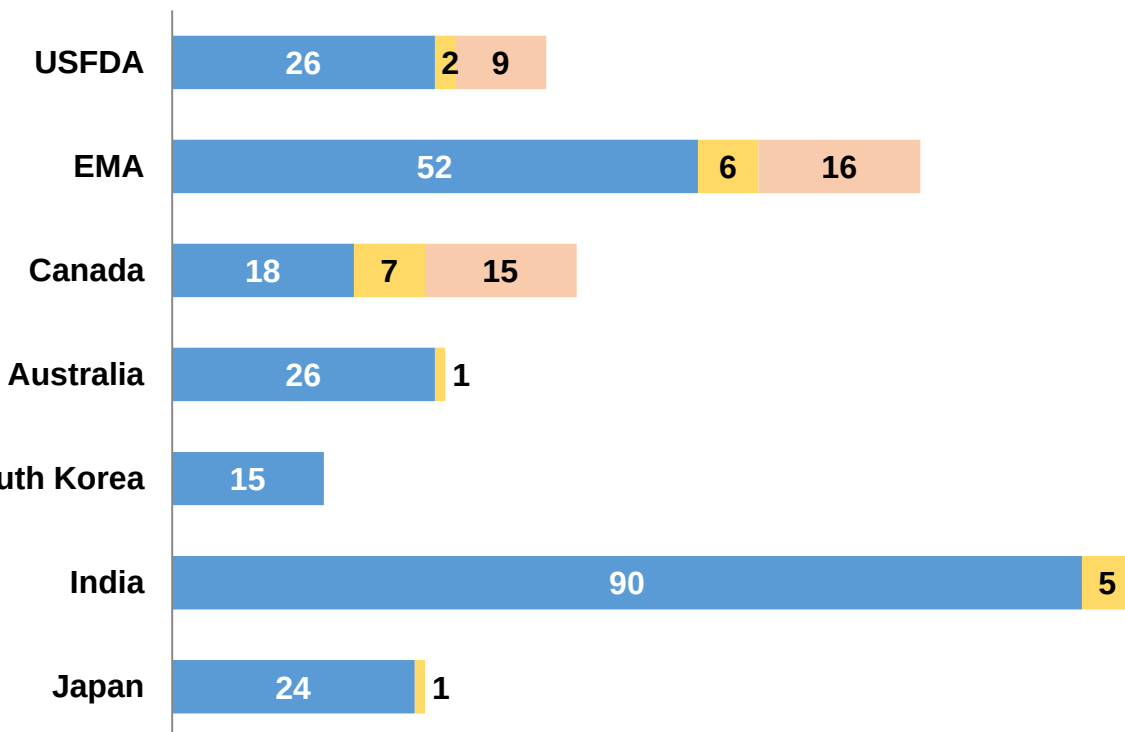
HONESTY

TRANSPARENCY

Biosimilars Worldwide: Snapshot

Total Biosimilars Approved

■ till 2019 ■ in 2020 ■ Under Review



Source: Data available on Regulatory Sites
For Australia, S. Korea, India and Japan, data on filing unavailable

Highlights of Biosimilars in 2020

- **In Regulated Markets**
 - ✓ EMA approved 5 biosimilars namely Amsparity (Pfizer - Adalimumab), Zercepac (Shanghai Henlius - Trastuzumab), Sanofi's Insulin Aspart, Ruxience (Pfizer - Rituxmab), Nepexto (Lupin/YL Biologics/Mylan - Etanercept)
 - ✓ FDA approved 3 products Semglee (Biocon/Mylan - Insulin Glargine), Nyvepria (Pfizer-Pegfilgrastim) and Hulio (Fujifilm Kyowa Kirin Biologics / Mylan's Adalimumab)
 - ✓ Japan approved Hulio (Fujifilm Kyowa Kirin Biologics / Mylan's - Adalimumab)
- **Emerging Markets**
 - ✓ China has approved 2 biosimilars from Innovent Biologics namely Sulinno (Adalimumab) and Byvasda (Bevacizumab). Also approved are Insulin Aspart biosimilar from Gan & Lee's and Trastuzumab biosimilar from Shanghai Henlius
 - ✓ In India, Cadila Pharmaceuticals has launched 4 biosimilars in last 2 months namely Cadalimab (Adalimumab), Bevaro (Bevacizumab), Ritucad (Rituximab) and NuPTH (Teriparatide)

Pace of Biosimilar Approvals Worldwide

- ✓ COVID has had a clear impact on the pace of review and approval of biosimilars worldwide. Faced with resource crunch and prioritization of COVID related activities to other regulatory agencies would be expected to struggle. However it was evident that **EMA** has continued to forge ahead and has already approved 6 biosimilars compared to 2019 where only 5 were approved making a total of 58 biosimilars approved till date with 16 currently under review
- ✓ **FDA** on the other hand has significantly slowed down. Compared to last year record approvals of 10 biosimilars, so far only 2 biosimilars have been approved making the total number of US-approved biosimilars as 28 and number of commercialized biosimilars at 17.
- ✓ In Asia-Pacific region before the formal biosimilar regulatory frameworks was rolled out by EU and US, numerous “follow-on biologics” or “copy biologics” products were present in the Asian market for more than 20 years. In **China** alone these represent a great proportion, ~ 390 biological products were already approved. Though **China** is the second largest pharmaceutical market in the world it had approved its first biosimilar only in Feb 2019. Despite being late to the game, it is now looking to be gearing up on biosimilar front as well with +200 clinical trials already approved for biosimilars in the region by China National Medical Products Administration.
- ✓ **India** with one of the highest number of biosimilar approved till date is continuing to actively partake in the biosimilar space enabled by Indian companies aggressively pursuing collaboration with major players for global distribution and in parallel seeking to expand their portfolio also. Close to 201 active biosimilars can be seen in the pipeline of 52 Indian companies

Summary

Molecule	Company	Stage of Development	Partner
Abatacept	Momenta Pharmaceuticals (USA)	Phase 1 CT completed, Product Development Discontinued	Mylan (USA)
Abatacept	BioXpress Therapeutics SA (Switzerland)	Preclinical	-
Abatacept	Dr.Reddy's Laboratories (India)	Pipeline	-
Abatacept	Innovent Biologics, Inc (China)	Pipeline	-
Abatacept	Shanghai CP Guojian Pharmaceutical Co Ltd. (China)	Pre-registration in China for RA 2011. Supporting data not available	-
Abatacept	Upjohn [Pfizer unit] (USA)	Planned	Mylan (USA)
Abatacept	Hanwha Biologics (South Korea)	Discontinued in Korea	-
Abciximab	ISU Abxis Co., Ltd. (South Korea)	Marketed in Columbia, India, Korea	-
Abciximab	Reliance Life Sciences (India)	Approved (India)	-
Abciximab	Pfenex (USA)	Pipeline	-
Abciximab	Harvest Moon Pharmaceuticals (USA)	Pipeline	-
Adalimumab	Zydus Cadila/Glenmark (India)	Approved (India)	RusBioPharm (Russia)
Adalimumab	Cinnagen (Iran)	Approved (Iran, CIS)	-
Adalimumab	MabAsia Biopharm (Iran)	Phase 3 CT –EM Completed	-
Adalimumab	Sandoz (Germany)	Approved (US, EU)	-
Adalimumab	Amgen (USA)	Approved(US, EU, Australia)	Orion (Finland)

Summary

Molecule	Company	Stage of Development	Partner
Adalimumab	Fujifilm Kyowa Kirin Biologics Co., Ltd. (Japan)	Approved (EU, USA, Japan)	Mylan (USA), Biocon (India)
Adalimumab	Cadila Pharmaceuticals	Marketed (India)	-
Adalimumab	Samsung Bioepis (South Korea)	Approved (EU, USA, Canada, Australia, South Korea)	Mundipharma (Hong Kong and Taiwan), Biogen (China and Europe)
Adalimumab	Boehringer Ingelheim (USA)	Discontinued Commercial Activity	-
Adalimumab	Fresenius Kabi (earlier Merck KGaA EMD Serono) (Germany)	Approved (EU)	-
Adalimumab	Momenta (USA)	Terminated	-
Adalimumab	LG Lifesciences (Japan)	Phase 3 CT –Global Status Unknown	Mochida (Japan)
Adalimumab	Biocad (Russia)	Approved (Russia)	-
Adalimumab	Hetero (India)	Approved (India)	-
Adalimumab	Pfizer (USA)	Approved (EU, USA)	-
Adalimumab	Coherus (USA)	Phase 3 CT –Global Completed Target submission to FDA and EMA in 2020	Orox Pharmaceuticals (USA)
Adalimumab	Innovent Biologics (China)	Approved (China)	-
Adalimumab	Bio-Thera Solutions (China)	Approved (China)	-
Adalimumab	Genor biopharma(China)	Phase 1 CT ongoing, Target Completion Unknown	BIOCND (Korea)

Summary

Molecule	Company	Stage of Development	Partner
Adalimumab	Shanghai Henlius Biotech (China)	Approved (China)	-
Adalimumab	Meiji Seika Pharma Co., Ltd. (Japan)	Phase 1 CT Completed	-
Adalimumab	Synermore Biologics Co., Ltd. (Taiwan)	Phase 1 CT Completed	-
Adalimumab	Alvotech Swiss AG (Switzerland)	Phase 3 CT -Global Completed, Target to file o USFDA and EMA in the second half of 2020	DKSH (selected markets across Asia Pacific)
Adalimumab	Outlook Therapeutics (Oncobiologics)/GMS Tenshi Holdings/Hisun Pharma (USA)	MAA under review (China)	-
Adalimumab	Dr.Reddy's Laboratories (India)	Phase 1 CT ongoing, Target Completion Unknown	-
Adalimumab	Celltrion (South Korea)	MAA under review (EMA)	-
Adalimumab	Reliance Life Sciences (India)	Approved (India)	Torrent (India)
Adalimumab	Prestige Biopharma (Singapore)	Phase 3 CT -Global ongoing, Target Completion Nov 2021	-
Adalimumab	Shanghai Junshi Biopharm (China)	Under NMPA Review (08-Nov-19)	-
Adalimumab	Karyo Biologics (USA)	Preclinical	-
Adalimumab	Neuclone (Australia)	Preclinical	Serum Institute of India (India)
Adalimumab	Tanvex Biopharma (USA)	Preclinical	-
Adalimumab	PlantPraxis (Brazil)	Preclinical	-

Summary

Molecule	Company	Stage of Development	Partner
Adalimumab	Mabxience (Spain)	Preclinical	-
Adalimumab	Kashiv Biosciences/Adello Biologics (USA)	Preclinical	-
Adalimumab	Protheragen (USA)	Preclinical	-
Adalimumab	United BioPharma (Taiwan)	Preclinical	-
Adalimumab	Mabpharm (China)	Preclinical	-
Adalimumab	AET BioTech/BioXpress Therapeutics SA (Switzerland)	Early Research	-
Adalimumab	Gene Techno Science / Changchun Changsheng Life Sciences Ltd (China)	Early Research	-
Adalimumab	Meridian Biopharmaceuticals (Austria)	Early Research	-
Adalimumab	Alteogen/Cristalia (South Korea/Brazil)	Early Research	-
Adalimumab	ISU Abxis (South Korea)	Early Research	-
Adalimumab	AXXO (Germany)	Pipeline	-
Adalimumab	Mycenax Biotech(Taiwan)	Early Research	-
Adalimumab	Bionovis/The Instituto Vital Brazil (Brazil)	Pipeline	-
Adalimumab	Alphamab (China)	Discontinued	-

Summary

Molecule	Company	Stage of Development	Partner
Aflibercept	Momenta Pharmaceuticals (USA)	Phase 3 CT-Global ongoing, Target Completion Dec 2020	Mylan
Aflibercept	Alteogen (South Korea)	Phase 1 CT ongoing, Target Completion Dec 2020	-
Aflibercept	Cinnagen (Iran)	Phase 3 CT –EM ongoing, Target Completion Aug 2020	-
Aflibercept	Formycon (Germany)	Phase 3 CT-Global ongoing, Target Completion Feb 2022	Bioeq
Aflibercept	Amgen (USA)	Phase 3 CT-Global ongoing, Target Completion Jul 2022	-
Aflibercept	Samsung Bioepis (South Korea)	Phase 3 CT-Global ongoing, Target Completion Feb 2022	AffaMed Therapeutics
Aflibercept	Sam Chun Dang Pharm (South Korea)	Phase 3 CT-Global ongoing, Target Completion Jan 2022	
Aflibercept	Luye Pharma (China)	Phase 1 CT ongoing, Target Completion Dec 2020	-
Aflibercept	Qilu Pharmaceutical (China)	Phase 3 CT ongoing, Target Completion Unknown	-
Aflibercept	Coherus BioSciences (USA)	Preclinical	-
Aflibercept	PharmAbcine (South Korea)	Preclinical	-
Aflibercept	Prestige Biopharma (Singapore)	Preclinical	-
Aflibercept	Lupin (India)	Pipeline	-
Aflibercept	RophiBio (South Korea)	Pipeline	-
Aflibercept	BioXpress Therapeutics SA (Switzerland)	Pipeline	-
Aflibercept	Gene Techno Science (Japan)	Early research	-
Aflibercept	GlycoNex (Taiwan)	Early research	-

Summary

Molecule	Company	Stage of Development	Partner
Alemtuzumab	BioXpress Therapeutics SA (Switzerland)	Preclinical	-
Alemtuzumab	Mylan/Momenta (USA)	Pipeline	-
Alemtuzumab	Harvest Moon Pharmaceuticals (USA)	Pipeline	-
Alemtuzumab	Zhejiang HISUN Pharmaceuticals Co. Ltd. (HISUN)/Catalent Pharma Solutions (China)	Pipeline	-
Alemtuzumab	BioSavita (USA)	Early research	-
Anakinra	Sunshine Guojian Pharmaceutical (China)	Discontinued Phase 3 in China	-
Anakinra	Paras Biopharmaceuticals (Finland)	Pipeline	-
Anakinra	Axxo pharmaceuticals (Germany)	Early research	-
Basiliximab	MabTech (Sweden)	Phase 3 CT -EM completed in China	Sorrento Therapeutics (EU, Japan, North America)
Bevacizumab	Mabxience (Spain)	Approved (Argentina)	Amneal Pharmaceuticals
Bevacizumab	Amgen/ Allergan (USA)	Approved (USA, EU, Japan)	Daiichi Sankyo (Japan)
Bevacizumab	Biocon (India)	Approved (India), Under review with USFDA	Mylan (USA)
Bevacizumab	Pfizer (USA)	Approved (USA, EU)	-
Bevacizumab	Boehringer Ingelheim (USA)	Phase 3 CT –Global completed	-
Bevacizumab	Tanvex Biopharma (Taiwan)	Phase 1 CT completed	-
Bevacizumab	Centus Biotherapeutics Ltd (Germany)	Positive CHMP opinion (EU)	Fujifilm Kyowa Kirin, AstraZeneca

Summary

Molecule	Company	Stage of Development	Partner
Bevacizumab	Samsung Bioepis (South Korea)	Approved (EU), Under Review (USFDA)	Mundipharma (Hong Kong, Taiwan)
Bevacizumab	Zydus Cadila (India)	Approved (India)	-
Bevacizumab	Biocad (Russia)	Approved (Russia), under Review (India)	-
Bevacizumab	Intas (India)	Approved (India)	-
Bevacizumab	Reliance Life Sciences (India)	Approved (India)	-
Bevacizumab	Hetero (India)	Approved (India, Cambodia, Georgia, Moldova)	-
Bevacizumab	Dr.Reddy's Laboratories (India)	Approved (India)	-
Bevacizumab	Cipla BioTec (India)	Phase 1 CT completed	-
Bevacizumab	Cadila Pharmaceuticals	Marketed (India)	-
Bevacizumab	Celltrion (South Korea)	Phase 3 CT –EM ongoing, Target Completion Aug 2023	-
Bevacizumab	Innovent Biologics (China)	Approved (China)	Coherus BioSciences (USA, Japan)
Bevacizumab	JHL Biotech, Inc. (Taiwan)	Discontinued	-
Bevacizumab	Qilu Pharmaceutical (China / USA)	Approved (China)	-
Bevacizumab	Bio-Thera Solutions (China)	MAA Under Review (China)	-
Bevacizumab	AryoGen Pharmed Co (Iran)	Approved (Iran)	-
Bevacizumab	Zhejiang Teruishi Pharmaceutical(China)	Phase 1 CT Completed	-
Bevacizumab	TOT Biopharm Co. Ltd. (China)	Phase 3 CT –EM ongoing, Target Completion Unknown	-

Summary

Molecule	Company	Stage of Development	Partner
Bevacizumab	Outlook Therapeutics (USA)	Phase 3 CT –Global ongoing, Target Completion Aug 2020	BioLexis Pte
Bevacizumab	R Pharm / Alphamab (Russia/China)	Phase 3 CT –EM Completed	-
Bevacizumab	Prestige Biopharma (Singapore)	Phase 3 CT –Global ongoing, Target Completion Nov 2021	-
Bevacizumab	Beijing Mabworks Biotech Co., Ltd. (China)	Phase 3 CT –EM ongoing, Target Completion Jun 2020	-
Bevacizumab	Jiangsu T-Mab Biopharma Co.,Ltd (China)	Phase 1 CT ongoing, Target Completion Unknown	-
Bevacizumab	Shandong Boan Biotechnology (China)	Phase 3 CT –EM ongoing, Target Completion Dec 2020	Luye Pharma Group Ltd.
Bevacizumab	AskGene Pharma (USA)	Phase 1 CT ongoing, Target Completion Unknown	Jiangsu Aosaikang Pharmaceutical Co., Ltd.
Bevacizumab	Genor Biopharma Co. Ltd (China)	Phase 3 CT –EM Completed	-
Bevacizumab	Shanghai Henlius Biotech (China)	Phase 1 CT ongoing, Target Completion Apr 2020	-
Bevacizumab	Aurobindo Pharma (India)	Phase 1 CT ongoing, Target Completion Unknown	-
Bevacizumab	Karyo Biologics (USA)	Clinical, Data not available	-
Bevacizumab	BIOCND (South Korea)	Phase III clinical trials discontinued	-
Bevacizumab	PlantForm Corporation (Canada)	Clinical Development	-
Bevacizumab	Coherus (USA)	Suspended	-
Bevacizumab	Apotex (Apobiologix) (Canada)	Planning Phase 1 (USA, EU and Canada development program)	-

Summary

Molecule	Company	Stage of Development	Partner
Bevacizumab	Lupin (India)	Preclinical	-
Bevacizumab	Mycenax (Taiwan)	Preclinical	-
Bevacizumab	Polpharma (Poland)	Preclinical	-
Bevacizumab	PharmAbcine (South Korea)	Preclinical	-
Bevacizumab	Protheragen (USA)	Preclinical	-
Bevacizumab	Axxo (Germany)	Preclinical	-
Bevacizumab	BioIntegrator (Russia)	Preclinical	-
Bevacizumab	BioXpress Therapeutics SA (Switzerland)	Pipeline	-
Bevacizumab	Gene Techno Science (China)	Pipeline	-
Bevacizumab	Bionovis (Brazil)	Pipeline	The Instituto Vital Brazil (Brazil)
Bevacizumab	Nanogen Biopharmaceutical (Vietnam)	Pipeline	-
Bevacizumab	Mabion (Poland)	Early Research	-
Bevacizumab	STC Biologics (USA)	Discontinued	-
Bevacizumab	Alteogen (South Korea)	Discontinued	-
Bevacizumab	Kashiv BioSciences (USA)	Discontinued	-

Summary

Molecule	Company	Stage of Development	Partner
Certolizumab Pegol	Pfenex (USA)	Preclinical	-
Certolizumab Pegol	Xbrane Biopharma (Sweden)	Preclinical	STADA Arzneimittel (Germany)
Certolizumab Pegol	Pan Pharmaceuticals (Australia)	Discontinued	-
Cetuximab	Sorrento Therapeutics (USA)	Phase 3 CT-EM Completed	MabTech
Cetuximab	Reliance Life Sciences Pvt Ltd. (India)	Phase 3 CT-EM Terminated	Torrent
Cetuximab	CinnaGen (Iran)	Phase 3 CT –EM ongoing, Target Completion Feb 2020	-
Cetuximab	Sunshine Guojian Pharmaceutical (China)	Phase 3 CT-EM Unknown Status	-
Cetuximab	Shanghai Zhangjiang Biotechnology (China)	Phase 3 CT-EM ongoing, Target Completion Apr 2021	Shanghai Biomabs / Taizhou Mabtech Pharmaceutical
Cetuximab	Sichuan Kelun Pharmaceutical Research Institute Co., Ltd. (China)	Phase 3 CT-EM ongoing, Target Completion Dec 2023	-
Cetuximab	Dragonboat Company (China)	Phase 1 CT ongoing, Target Completion Jun 2021	-
Cetuximab	Enzene Biosciences [Alkem] (India)	Phase 3 CT-EM ongoing, Target Completion Nov 2020	-
Cetuximab	R Pharm (Russia)	Phase 3 CT ongoing	
Cetuximab	Shanghai Henlius Biotech (China)	Phase 1 CT ongoing	-
Cetuximab	Actavis (USA)	Phase 1 Planned	Amgen/Allergan
Cetuximab	BioXpress Therapeutics SA (Switzerland)	Preclinical	-

Summary

Molecule	Company	Stage of Development	Partner
Cetuximab	Outlook Therapeutics (USA)	Preclinical	Viropro
Cetuximab	PlantForm Corporation (Canada)	Preclinical	-
Cetuximab	Aurobindo Pharma (India)	Clone and Process Development	-
Cetuximab	Celltrion (South Korea)	Under Development	-
Cetuximab	Harvest Moon Pharmaceuticals (United States)	Pipeline	-
Cetuximab	Mabion (Poland)	Pipeline	-
Cetuximab	Polpharma (Poland)	Pipeline	-
Cetuximab	Dr.Reddy's Laboratories (India)	Pipeline	-
Darbepoetin Alfa	Hetero Drugs (India)	Approved (India)	Cipla (Cambodia, India, Myanmar, Tanzania), Lupin, Biocon, LG life Sciences, Emcure, Fresenius Kabi, Torrent, Indiabulls, Zydus (India)
Darbepoetin Alfa	Dr Reddy's Laboratories (India)	Approved (India, Bangladesh)	-
Darbepoetin Alfa	Chong Kun Dang Pharmaceutical (South Korea)	Approved (Japan)	Fuji Pharma (Japan)
Darbepoetin Alfa	Kissei Pharmaceutical/ JCR Pharmaceuticals (Japan)	Approved (Japan)	-
Darbepoetin Alfa	3SBio Inc (China)	Phase 3 CT-Global ongoing, Target Completion Unknown	-
Darbepoetin Alfa	CJ HealthCare (South Korea)	Phase 3 CT-EM ongoing, Target Completion Unknown	-
Darbepoetin Alfa	Biocad (Russia)	Phase 3 CT-EM Completed	-

Summary

Molecule	Company	Stage of Development	Partner
Darbepoetin Alfa	Gene Techno Science Co.,Ltd (South Korea)	Approved (Japan)	Dong-A Pharmaceutical (Japan)
Darbepoetin Alfa	Reliance Life Sciences (India)	Approved (India)	-
Darbepoetin Alfa	Apobiologix (United States)	Preclinical	-
Darbepoetin Alfa	Karyo Biologics (USA)	Process Development	-
Darbepoetin Alfa	Nanogen Biopharmaceutical Co (Vietnam)	Pipeline	-
Darbepoetin Alfa	Aprogen/ Nichi-Iko Pharmaceutical (Japan)	Pipeline	-
Darbepoetin Alfa	Merck (United States)	Terminated (Phase II)	-
Darbepoetin Alfa	Avesthagen Pharma/ Elpen Pharmaceutical (India/Greece)	Company closed operations	-
Denosumab	Intas (India)	Approved (India)	-
Denosumab	Aryogen Pharmed (Iran)	Phase 3 CT-EM Completed	-
Denosumab	Jiangsu T-Mab Biopharma (China)	Phase 1 CT ongoing, Target Completion Unknown	-
Denosumab	Reliance Life Sciences (India)	Phase 3 CT-EM ongoing, Target Completion Feb 2020	-
Denosumab	Luye Pharma Group Ltd (China)	Phase 3 CT –EM ongoing, Target Completion Dec 2021	Shangdong Boan Biotechnology
Denosumab	JHL Biotech (Taiwan)	Discontinued	-
Denosumab	Alkem Laboratories (India)	Phase 3 CT –EM ongoing, Target Completion Mar 2020	-

Summary

Molecule	Company	Stage of Development	Partner
Denosumab	Qilu Pharmaceutical (China)	Phase 3 CT –EM ongoing, Target Completion Dec 2021	-
Denosumab	Sandoz (Germany)	Phase 3 CT –Global ongoing, Target Completion Jul 2022	-
Denosumab	Shanghai Biomabs (China)	Phase 1 CT ongoing, Target Completion Jun 2020	-
Denosumab	Shanghai Henlius Biotech (China)	NMPA China accepts CTA	-
Denosumab	Enzene Biosciences (India)	Pre-registration for clinical trials in India	-
Denosumab	GSK Pharmaceutical (USA)	Pre-registration for clinical trials in India	-
Denosumab	NeuClone (Australia)	Late Preclinical	Serum Institute of India
Denosumab	Biosanapharma (Netherland)	Preclinical	-
Denosumab	Lupin (India)	Preclinical	-
Denosumab	BioXpress Therapeutics SA (Switzerland)	Preclinical	-
Denosumab	Outlook Therapeutics (USA)	Preclinical	-
Denosumab	Alvotech (Iceland)	Preclinical	Prestige Biopharma
Denosumab	GlycoNex (Taiwan)	Preclinical	-
Denosumab	Mabxience (Spain)	Pipeline	-
Denosumab	Hetero (India)	Pipeline	-
Denosumab	Dr.Reddy's Laboratories (India)	Pipeline	-
Denosumab	Pan Pharmaceuticals (USA)	Discontinued	-

Summary

Molecule	Company	Stage of Development	Partner
Dornase Alfa	International Biotech Center Generium (Russia)	Approved (Russia)	-
Dornase Alfa	JHL Biotech, Inc. (Taiwan)	Discontinued	-
Eculizumab	Amgen Inc. (United States)	Phase 3 CT -Global ongoing, Target Completion in May 2020	Actavis (United States)
Eculizumab	CinnaGen (Iran)	Phase 2/3 CT -EM Completed	-
Eculizumab	Samsung Bioepis (Korea)	Phase 3 CT-EM ongoing, Target Completion in Oct 2021	AffaMed Therapeutics (China, Singapore)
Eculizumab	Biocad (Russia)	Phase 3 CT-EM ongoing, Target Completion in Nov 2020	-
Eculizumab	ISU Abxis (South Korea)	Phase 1 CT Completed	-
Eculizumab	Generium (Russia)	Approved (Russia)	-
Eculizumab	Prestige BioPharma (Singapore)	Early research	-
Eculizumab	Epirus Biopharmaceuticals (United States)	Discontinued	-
Etanercept	Samsung Bioepis (South Korea)	Approved (EU, USA, Australia, Japan, South Korea, Brazil)	-
Etanercept	Shanghai CP Goujian (China)	Approved (China, Colombia, Mexico)	Cipla (India)
Etanercept	Intas (India)	Approved (India)	-
Etanercept	Sandoz (Germany)	Approved (EU, USA, Australia, Canada)	-
Etanercept	Coherus Biosciences (USA)	USFDA rejected in Jun 2017	-
Etanercept	Lupin (India)	Approved (EU, Japan), Under review (South Korea)	YL Biologics (Japan), Mylan

Summary

Molecule	Company	Stage of Development	Partner
Etanercept	LG Life sciences (South Korea)	Approved (South Korea, Japan)	Mochida Pharmaceutical (Japan)
Etanercept	Mycenax Biotech/ TSH Biopharm Ltd (Taiwan)	Approved (Taiwan)	-
Etanercept	Shanghai Celgene Bio-Pharmaceutical (China)	Approved (China)	-
Etanercept	Probiomed (Mexico)	Approved (Mexico)	-
Etanercept	Clover Biopharmaceuticals (China)	Phase 3 CT-EM ongoing, Target Completion Unknown	-
Etanercept	Reliance Life Science (India)	Approved (India)	-
Etanercept	Hanwha Chemical (South Korea)	Approved (South Korea)	-
Etanercept	Aryogen (Iran)	Approved (Iran)	-
Etanercept	Daewoong Pharmaceutical Co. (South Korea)	Phase 1 CT ongoing, Target Completion Unknown	-
Etanercept	Shanghai Fudan-Zhangjiang Bio-Pharmaceutical Co.,Ltd. (China)	Terminated	-
Etanercept	Gema Biotech S.A. / Amega Biotech. (Brazil)	Approved (Argentina)	-
Etanercept	Zenotech Laboratories (India)	Discontinued	-
Etanercept	Nanogen Biopharmaceutical (Vietnam)	Approved (Vietnam)	-
Etanercept	BioXpress Therapeutics SA (Switzerland)	Preclinical	-

Summary

Molecule	Company	Stage of Development	Partner
Etanercept	Celltrion (South Korea)	Preclinical	-
Etanercept	mAbxience (Spain)	Preclinical	-
Etanercept	Biocon (India)	Preclinical	-
Etanercept	Protalix Biotherapeutics (Israel)	Preclinical	-
Etanercept	Alteogen/Cristalia (South Korea)	Preclinical	-
Etanercept	Avesthagen (India)	Preclinical	-
Etanercept	STC Biologics (USA)	Preclinical Discontinued	-
Etanercept	Biotrion (South Korea)	Pipeline	-
Etanercept	Axxo (Germany)	Pipeline	-
Etanercept	Adello Biologics (USA)	Pipeline	-
Etanercept	Prestige BioPharma (Singapore)	Pipeline	-
Etanercept	Bio Sidus S.A (Argentina)	Pipeline	-
Etanercept	Harvest Moon Pharmaceuticals (USA)	Pipeline	-
Etanercept	Momenta Pharmaceuticals (USA)	Pipeline	-
Etanercept	Bionovis (Brazil)	Pipeline	The Instituto Vital Brazil
Etanercept	Neurokine Pharmaceuticals (South Africa)	Pipeline	-
Etanercept	Dong-A ST (South Korea)	Pipeline	Meiji Seika Pharma

Summary

Molecule	Company	Stage of Development	Partner
Etanercept	Aurobindo Pharma (India)	Pipeline (Clone and Process Development)	-
Etanercept	Qilu Pharmaceutical (Spain)	Pipeline	-
GCSF	Intas (India)	Approved (India), Under Review with USFDA	Apotex/ Accord (Japan, Thailand, Philippines, Indonesia, EU, Mexico)
GCSF	Sandoz (Germany)	Approved (USA, EU, Australia, Japan, Malaysia)	-
GCSF	Kashiv BioSciences/Adello Biologics/Therapeutic Proteins International, LLC	Under Review with USFDA	-
GCSF	Dong-A ST (South Korea)	Approved (South Korea, Vietnam, Philippines)	Biocad, Rooyan Darou (Turkey)
GCSF	Pfizer (USA)	Approved (USA, EU, Australia, New Zealand, Malaysia, Hong Kong, Singapore, Canada)	-
GCSF	Pharmstandard (Russia)	Approved (Russia)	-
GCSF	Gennova/Emcure (India)	Approved (India)	-
GCSF	Fuji Pharma/Mochida Pharmaceutical (Japan)	Approved (Japan)	-
GCSF	Ratiopharm (Germany)	Approved (USA, EU, Mexico, Hong Kong, South Africa)	Aspen Pharmacare (ANZ), Nippon Kayaku (Japan), Teva
GCSF	Zydus Cadila (India)	Approved (India)	Biosidus (Argentina)
GCSF	Lupin (India)	Approved (India)	-
GCSF	Eurofarma Laboratórios (Brazil)	Approved (Brazil)	-

Summary

Molecule	Company	Stage of Development	Partner
GCSF	Virchow Biotech (India)	Phase 3 CT-EM ongoing, Target Completion Unknown	-
GCSF	BioGenomics (India)	Phase 1 CT Completed	-
GCSF	Reliance Life Sciences (India)	Approved (India, Philippines, Maldives, Nepal, Vietnam, Myanmar, Paraguay, Peru, Kenya, Algeria)	-
GCSF	Actoverco Pharmaceuticals Company (Iran)	Phase 3 CT-EM Completed	-
GCSF	Pooyesh darou Company (Iran)	Approved (Iran)	-
GCSF	Shantha Biotechnics Limited (India)	Phase 3 CT-EM Completed	-
GCSF	Samen Pharmaceutical Company (Iran)	Phase 3 CT-EM Completed	-
GCSF	AryaTinaGene Biopharm Co. (Iran)	Approved (Iran)	-
GCSF	Blausiegel Industria E Comercio Ltd (Azidus) (Brazil)	Phase 1 CT Completed	-
GCSF	Siam Bioscience Co., Ltd. (Thailand)	Phase 1 CT Completed	-
GCSF	Bio-ker S.r.l. (Italy)	Phase 3 CT-Global ongoing, Target Completion Unknown	-
GCSF	Tanvex Biopharma (USA)	- USFDA issues CRL in Oct 2019 - BLA submitted to Health Canada on Jan 2019	-
GCSF	Dr.Reddy's Laboratories (India)	Approved (India)	-
GCSF	Biocon / Mylan (India)	Approved (India)	-
GCSF	Claris Lifesciences (India)	Approved (India)	-

Summary

Molecule	Company	Stage of Development	Partner
GCSF	CJ Health care (China)	Approved (China)	-
GCSF	Kalbe Farma / Innogene Kalbiotech (Indonesia)	Approved (Indonesia)	-
GCSF	USV (India)	Approved (India)	-
GCSF	Nanogen (Vietnam)	Approved (Vietnam)	-
GCSF	Sedico (Egypt)	Approved (Egypt)	-
GCSF	North China Pharmaceutical Corporation (China)	Approved (China)	-
GCSF	Xiamen Amoytop Biotech (China)	Approved (China)	-
GCSF	Elea (Argentina)	Approved (Argentina)	-
GCSF	Fresenius Kabi (Germany)	Approved (Argentina)	-
GCSF	Aequus (Canada) /CTI BioPharma (US)	Preclinical	-
GCSF	Phage Pharmaceuticals (USA)	Preclinical	-
GCSF	Mycenax Biotech (Taiwan)	Preclinical	-
GCSF	Profarma (Brazil)	Preclinical	-
GCSF	Cerbios-Pharma (Switzerland)	Preclinical	-
GCSF	Karyo Biologics (USA)	Pipeline	-
GCSF	Bionaturis/Curaxys (Spain)	Discontinued	-

Summary

Molecule	Company	Stage of Development	Partner
GCSF	Merck & Co./ Insmmed (Germany)	Discontinued (Phase III ended prematurely)	-
Golimumab	Bio-Thera (China)	Phase 1 CT ongoing, Target Completion Dec 2020	-
Golimumab	Outlook Therapeutics (USA)	Preclinical	-
Golimumab	BioXpress Therapeutics SA (Switzerland)	Preclinical	-
Golimumab	Harvest Moon pharmaceuticals (USA)	Pipeline	-
Golimumab	Dr.Reddy's Laboratories (India)	Pipeline	-
Golimumab	Epirus/Bioceros/Polpharma (USA)	Pipeline	-
Infliximab	Celltrion (South Korea)	Approved (US, South Korea, Malaysia, Singapore, Canada, LatAm)	Nippon Kayaku (Japan), Pharmabio (ANZ), Hikma (MENA), MN Pharmaceuticals (Russia), Mundipharma (EU)
Infliximab	Shanghai Biomabs Pharmaceutical Co., Ltd. (China)	Phase 3 CT- EM Completed	-
Infliximab	Aprogen (South Korea)	Approved (South Korea)	Nichi-Iko (Japan)
Infliximab	Epirus Biopharmaceuticals (USA)	Approved (India)	Sun Pharma/RLS (India)
Infliximab	Amgen/Allergan (United States)	Approved (USA)	-
Infliximab	Pfizer/Sandoz (United States)	Approved (EU, USA, Canada, ANZ)	-
Infliximab	Hisun BioRay (China)	Phase 3 CT- EM Ongoing, Target Completion Unknown	-
Infliximab	Samsung Bioepis (South Korea)	Approved (EU, Australia, South Korea, Canada)	Merck & Co (USA), Biogen (China), Bionovis (LatAm)

Summary

Molecule	Company	Stage of Development	Partner
Infliximab	Genor Biopharma (China)	Phase 3 CT- EM ongoing, Target Completion Apr 2021	-
Infliximab	Biocad (Russia)	Approved (Russia)	-
Infliximab	Mabtech Ltd (Sweden)	Filed NDA in China in Jan 2020	Sorrento Therapeutics Inc (USA)
Infliximab	Protheragen (USA)	Preclinical	-
Infliximab	LG Chem (South Korea)	Preclinical	-
Infliximab	BioXpress Therapeutics SA (Switzerland)	Preclinical	-
Infliximab	Dr.Reddy's Laboratories (India)	Pipeline	-
Infliximab	AXXO GMBH (Germany)	Pipeline	-
Infliximab	Nanogen Pharmaceuticals (Vietnam)	Pipeline	-
Infliximab	Harvest Moon Pharmaceuticals (USA)	Pipeline	-
Infliximab	Prestige BioPharma (Singapore)	Early research	-
Infliximab	Sunshine Guojian Pharmaceutical (China)	Discontinued - Phase 3	-
Infliximab	Shanghai CP Guojian Pharma (South Korea)	Discontinued - Phase 3	-
Infliximab	Curaxys (Spain)	Discontinued in Spain	-
Infliximab	Kashiv BioSciences (Adello Biologics) (USA)	Discontinued	-

Summary

Molecule	Company	Stage of Development	Partner
Insulin Aspart	Biogenomics (India)	Phase 3 CT- EM ongoing, Target Completion Feb 2020	-
Insulin Aspart	Wockhardt (India)	Phase 1 CT Completed	-
Insulin Aspart	Sanofi (France)	Approved (EU)	-
Insulin Aspart	HEC Pharm (China)	Phase 1 CT ongoing, Target Completion Unknown	-
Insulin Aspart	Biocon (India)	Under review (EU), Targeted USA submission H1'CY20	Mylan (USA)
Insulin Aspart	GEROPHARM (Russia)	Phase 3 CT -EM Completed, Under Registration	-
Insulin Aspart	Hisun Pharma (China)	Phase 3 CT- EM ongoing, Target Completion Unknown	-
Insulin Aspart	Sihuan Pharmaceutical (China)	Phase 3 CT- EM ongoing, Target Completion Unknown	-
Insulin Aspart	Beijing Shuanglu Pharmaceutical (China)	Phase 1 CT ongoing, Target Completion Unknown	-
Insulin Aspart	Gan & Lee (China)	Approved (China)	Sandoz (EU, USA, Switzerland, Japan, South Korea, Canada, Australia, and New Zealand)
Insulin Aspart	Paras Biopharmaceuticals (Finland)	Early Research	-
Insulin Aspart	Karyo Biologics, LLC (USA)	Process Development	-
Insulin Degludec	Jiangsu Hengrui Medicine (China)	Preclinical	-
Insulin Degludec	Geropharm (Russian Federation)	Preclinical	-
Insulin Glargine	Eli Lilly (USA)	Approved (USA, EU, Australia, Japan, Singapore, South Korea, Ireland)	Boehringer Ingelheim
Insulin Glargine	Gan and Lee Pharmaceuticals (China)	Approved (China, Thailand, Egypt)	East West Pharmaceutical (Pakistan), Landsteiner Scientific (Mexico), Belmedpreparaty (Belarus)

Summary

Molecule	Company	Stage of Development	Partner
Insulin Glargine	Samsung Bioepis (South Korea)	Discontinued	Merck Sharp & Dohme (USA)
Insulin Glargine	Lannett (U.S)	Phase 1 CT Completed	-
Insulin Glargine	Wockhardt (India)	Approved (India)	Pharmaris (Peru)
Insulin Glargine	LG Life Sciences (South Korea)	Approved (India)	Lupin (India)
Insulin Glargine	Biocon (India)	Approved (Australia, US, Bangladesh, India, Malaysia, LatAm, Kenya), Pre-Registration (Middle East, NAFTA)	Fujifilm Pharma (Japan), GC Pharma (South Korea), Mylan (EU, US)
Insulin Glargine	HEC Pharma (China)	Phase 3 CT –EM Completed Phase 1 CT ongoing, Target Completion 2020	-
Insulin Glargine	Kalbe Farma (Indonesia)	Approved (Indonesia)	-
Insulin Glargine	Geropharm (Russia)	Approved (Russia)	-
Insulin Glargine	Zhuhai United Laboratories International (China)	Approved (China)	-
Insulin Glargine	Wanbang Biopharma (China)	Approved (China)	-
Insulin Glargine	Koçak Farma (Turkey)	Approved (Iran, Turkey)	-
Insulin Glargine	Hisun Pharma (China)	Clinical, trial data not available	-
Insulin Glargine	Biogenomics (India)	Preclinical	-
Insulin Glargine	Karyo Biologics (USA)	IND Under Review (US)	-

Summary

Molecule	Company	Stage of Development	Partner
Insulin Glargine	Polus Biopharm (South Korea)	Pipeline (IND planned to be filed)	-
Insulin Glargine	Harvest Moon Pharmaceuticals (USA)	Pipeline	-
Insulin Glargine	Paras Biopharmaceuticals (Finland)	Pipeline	-
Insulin Glargine	Biommm (Brazil)	Registry approval from Brazilian authority	-
Human Insulin	Julphar Gulf Pharmaceutical Industries (UAE)	Approved (Bangladesh, Sri Lanka, Uzbekistan, Mexico, Algeria, UAE)	-
Human Insulin	Marvel Life Sciences Limited (India)	Approved (India, Nepal, Singapore, Thailand, Vietnam, EU, Guyana, Lebanon, South Africa, Zambia, Russia & CIS)	MJ Biopharm Pvt Ltd (UK)
Human Insulin	Bioton SA/Biommm (Poland/Brazil)	Approved (EU)	-
Human Insulin	Baxter Healthcare Corporation (United States)	Phase 1 CT Completed	-
Human Insulin	Wockhardt Ltd (India)	Approved (India, Mauritius, Myanmar, Nepal, Philippines, Sri Lanka, Vietnam, Middle East, Tanzania, Uganda, Zambia, Russia CIS)	-
Human Insulin	SemBiosys (Canada)	Phase 1 CT Completed	-
Human Insulin	Adocia (France)	Approved (India)	-
Human Insulin	Sanofi (France)	Approved (EU)	-
Human Insulin	Rechon (Sweden)	Phase 3 CT –Global Completed	-

Summary

Molecule	Company	Stage of Development	Partner
Human Insulin	Biocon (India)	Approved (India, Malaysia, Nigeria)	-
Human Insulin	Sedico (Egypt)	Approved (Egypt)	-
Human Insulin	HEC Pharm (China)	Recombinant human insulin is still in phase II/III trials for Diabetes mellitus in China (HEC Pharm pipeline, June 2019)	-
Human Insulin	Biogenomics (India)	Preclinical	-
Human Insulin	Harvest Moon Pharmaceuticals (USA)	Preclinical	-
Human Insulin	Afrivax (United States)	Discontinued	-
Human Insulin	Genbiopro (United States)	Early research	-
Human Insulin	Curaxys (Spain)	Discontinued	-
Human Insulin	Reliance/GeneMedix (India/Ireland)	Discontinued in United Kingdom	-
Isophane Insulin	Wockhardt (India)	Approved (Philippines)	-
Isophane Insulin	Geropharm (Russia)	Approved (Russia)	-
Isophane Insulin	Marvel Life Sciences Limited India)	Approved (India, Russia, EU)	MJ Biopharm Pvt Ltd (UK)
Isophane Insulin	Julphar Gulf Pharmaceutical Industries (United Arab Emirates)	Approved (UAE)	-
Isophane Insulin	Sedico (Egypt)	Approved (Egypt)	-

Summary

Molecule	Company	Stage of Development	Partner
Insulin Lispro*	Sanofi-Aventis (France)	Approved (EU, USA, Canada)	-
Insulin Lispro	Geropharm (Russia)	Approved (Russia)	-
Insulin Lispro	Gan and Lee Pharmaceuticals (China)	Approved (China)	-
Insulin Lispro	Biocon/Mylan India)	Preclinical	-
Insulin Lispro	Biogenomics (India)	Preclinical	-
Insulin Lispro	Polus (South Korea)	Pipeline	-
Insulin Lispro	Perospere (USA)	Discontinued Phase I in Germany	-
Insulin Lispro	Wockhardt (India)	Withdrawn	-
Ipilimumab	Innovent Biologics (Suzhou) Co. Ltd. (China)	Phase 1 CT ongoing, Target Completion Jul 2021 Phase 1 CT ongoing, Target Completion Apr 2023 Phase 2 CT ongoing, Target Completion May 2023 Phase 3 CT -EM ongoing, Target Completion Apr 2025	-
Ipilimumab	CStone Pharmaceuticals (China)	Phase 1 CT ongoing, Target Completion May 2021 Phase 1 CT ongoing, Target Completion Jan 2022	-
Ipilimumab	Shanghai Henlius Biotech (China)	IND Approved by CNMPA in Apr 2020	-
Ipilimumab	JHL Biotech (Taiwan)	Preclinical	-
Ipilimumab	Prestige Biopharma (Singapore) / Alvotech (Iceland)	Early Research	-
Ipilimumab	BioXpress Therapeutics SA (Switzerland)	Pipeline	-
Ipilimumab	Hualan Genetic Engineering Ltd (China)	Pipeline	-

*Eli Lilly announced on 22 May 2019 that it had launched the lower-priced authorized biosimilar version of its diabetes treatment Humalog (insulin lispro) in the US

Summary

Molecule	Company	Stage of Development	Partner
Liraglutide	Cinnagen (Iran)	Approved (Iran)	-
Liraglutide	Chia Tai Tianqing Pharmaceutical Group (China)	Phase 3 CT -EM ongoing, Target Completion Dec 2021	-
Liraglutide	Levim Biotech (India)	Phase 1 ongoing, Target Completion Oct 2020	-
Liraglutide	East China Pharmaceutical (China)	CT ongoing, Target Completion Unknown	-
Liraglutide	Hybio Pharmaceutical Co (China)	CT ongoing, Target Completion Unknown	-
Liraglutide	Fosun Pharma (China)	Preclinical	-
Liraglutide	HEC Pharm (China)	Preclinical	-
Liraglutide	USV Biologics (India)	Preclinical	-
Liraglutide	Sajjala BioLabs (India)	Preclinical Completed	-
Liraglutide	Karyo Biologics (USA)	Process Development	-
Liraglutide	Paras Biopharmaceuticals (Finland)	Pipeline	-
Liraglutide	Oncosimis Biotech (India)	Pipeline	-
Natalizumab	Polpharma Biologics (Poland)	Phase 3 CT -Global ongoing, Target Completion Aug 2021	Sandoz (Germany)
Natalizumab	BioXpress Therapeutics SA (Switzerland)	Preclinical	-
Natalizumab	Harvest Moon Pharmaceuticals (United States)	Early Research	-

Summary

Molecule	Company	Stage of Development	Partner
Nivolumab	Mabpharm (China)	Phase 1 CT ongoing, Target Completion Unknown	-
Nivolumab	Luye Pharma Group Ltd (China)	Preclinical	-
Nivolumab	NeuClone (Australia)	Preclinical	Serum Institute of India
Nivolumab	ISU Abxis (South Korea)	Preclinical, planning trial in 2020	
Nivolumab	BioXpress Therapeutics SA (Switzerland)	Pipeline	-
Nivolumab	Dr Reddy's Laboratories (India)	Pipeline	-
Nivolumab	Xbrane Biopharma (Sweden)	Pipeline	STADA Arzneimittel
Ofatumumab	BioXpress Therapeutics SA (Switzerland)	Preclinical	-
Ofatumumab	Pan Pharmaceuticals (Australia)	Discontinued (Company ceased operations in USA)	-
Omalizumab	Sorrento Therapeutics (USA)	Phase 2/3 CT-EM Completed	MabTech (Sweden)
Omalizumab	Shanghai Zhangjiang Biotechnology Limited Company (China)	Phase 2/3 CT-EM Completed	-
Omalizumab	Reliance Life Sciences (India)	Phase 3 CT-EM Completed	-
Omalizumab	Shanghai Biomabs Pharmaceutical Co., Ltd.(China)	Phase 3 CT -EM ongoing, Target Completion Nov 2020	Mabpharm (China)
Omalizumab	GENERIUM Pharmaceuticals (Russia)	Phase 3 CT -EM planned	-
Omalizumab	Synermore Biologics (Taiwan)	Phase 3 CT -EM ongoing, Target Completion Unknown	-
Omalizumab	Glenmark Pharmaceuticals (India)	Phase 1 CT Completed	-
Omalizumab	MedImmune LLC (USA)	Phase 1 CT Completed	-

Summary

Molecule	Company	Stage of Development	Partner
Omalizumab	Biosana Pty Ltd (Netherlands)	Phase 1 CT Completed	-
Omalizumab	Celltrion (Korea)	Phase 3 CT-EM ongoing, Target Completion Jan 2023 Phase 1 CT ongoing, Target Completion Aug 2020	-
Omalizumab	Oneness Biotech (Taiwan)	Phase 1 CT ongoing, Target Completion Unknown	-
Omalizumab	Mycanex Biotech (Taiwan)	Pre-IND Phase	-
Omalizumab	BioXpress Therapeutics SA (Switzerland)	Preclinical	-
Omalizumab	PharmAbcine (Korea)	Preclinical	-
Omalizumab	Dr.Reddy's Laboratories (India)	Pipeline	-
Omalizumab	Harvest Moon Pharmaceuticals (USA)	Pipeline	-
Omalizumab	JHL Biotech, Inc. (Taiwan)	Discontinued	-
Palivizumab	Medigen Vaccine Biologics Corp. (Taiwan) / WHO/ UCAB	Phase 1 CT ongoing, Target Completion Unknown	-
Palivizumab	mAbxience (Spain) / WHO/ UCAB	Preclinical	-
Palivizumab	NeuClone (Australia)	Preclinical	Serum Institute of India
Palivizumab	Mabpharm (China)	Preclinical	-
Palivizumab	BioXpress Therapeutics SA (Switzerland)	Preclinical	-
Palivizumab	iBio (China)	Preclinical	-
Palivizumab	Gene Techno Science (Japan)	Early Research	-

Summary

Molecule	Company	Stage of Development	Partner
Palivizumab	Celltrion (South Korea)	Pipeline	-
Palivizumab	Harvest Moon Pharmaceuticals (USA)	Pipeline	-
Panitumumab	Qilu Pharmaceutical Co., Ltd. (China)	Phase 3 CT-EM ongoing, Target Completion Mar 2023 Phase 1 CT ongoing, Target Completion Sep 2020	-
Panitumumab	BioXpress Therapeutics SA (Switzerland)	Preclinical	-
Panitumumab	Mylan/Momenta (USA)	Pipeline	-
Panitumumab	Pan Pharmaceuticals (USA)	Discontinued	-
Peg GCSF	Intas(India)	Approved (India)	Apotex (Canada, USFDA-tentative approval), Accord Health (EU)
Peg GCSF	Zydus Cadila Healthcare (India)	Approved (India, Philippines)	Rus Biopharm LLC
Peg GCSF	Dr.Reddy's Laboratories (India)	Approved (India)	-
Peg GCSF	Emcure Pharmaceuticals / Gennova biopharmaceuticals (India)	Approved (India)	-
Peg GCSF	CinnaGen (Iran)	Approved (Iran)	-
Peg GCSF	Biocon (India)	Approved (USA, EU, Australia, Canada)	Mylan
Peg GCSF	Lupin (India)	Approved (India)	-
Peg GCSF	Sandoz (Germany)	Approved (USA, EU)	-
Peg GCSF	Coherus (USA)	Approved (USA, EU)	-
Peg GCSF	Gedeon Richter (Hungary)	Withdrawn (EU)	-
Peg GCSF	Cinfa Biotech (Spain)	Approved (EU)	Mundipharma (EU)

INNOVATION

HONESTY

TRANSPARENCY

Summary

Molecule	Company	Stage of Development	Partner
Peg GCSF	Reliance Life Sciences (India)	Approved (India, Maldives, Nepal, Vietnam, Algeria, Kenya, Paraguay, Peru)	-
Peg GCSF	USV (India)	Approved (EU)	Jutapharm
Peg GCSF	Eurofarma Laboratorios S.A (Brazil)	Phase 3 Withdrawn	-
Peg GCSF	Kashiv BioSciences (USA)	Phase 1 CT completed	Celerion
Peg GCSF	Pfizer (USA)	Approved (US)	-
Peg GCSF	Korea Green Cross (South Korea)	Approved (South Korea)	-
Peg GCSF	Hangzhou Jiuyuan Gene Engineering Co. Ltd (China)	Phase 3 CT-EM ongoing, Target completion Jun 2022	-
Peg GCSF	Nanogen Pharmaceutical Biotechnology Joint Stock Company (Vietnam)	Approved (Vietnam)	-
Peg GCSF	Merck KGaA/ Fresenius Kabi (Germany)	Under Review (EU, US)	-
Peg GCSF	Pooyesh Darou Biopharmaceutical Company (Iran)	Approved (Iran)	-
Peg GCSF	Virchow Biotech Private Limited (India)	Phase 3 CT –EM ongoing, Target Completion Mar 2020	-
Peg GCSF	Gema Biotech S.A.(Argentina)	Phase 3 CT –EM ongoing, Target Completion Unknown	-
Peg GCSF	Jiangsu HengRui Medicine Co., Ltd. (China)	Approved (China)	-
Peg GCSF	Shandong New Time Pharmaceutical Co., LTD. (China)	Phase 1 CT completed	-

Summary

Molecule	Company	Stage of Development	Partner
Peg GCSF	Dong-A ST Co., Ltd. (Korea)	Approved (Korea)	-
Peg GCSF	Qilu Pharmaceutical Co.Ltd (China)	Approved (China)	-
Peg GCSF	AryaTinaGene (Iran)	Approved (Iran)	-
Peg GCSF	Bio-Ker (Italy)	Phase 1 CT ongoing, Target Completion Unknown	-
Peg GCSF	PharmaEssentia (Taiwan)	Phase 1 CT ongoing, Target Completion Unknown	-
Peg GCSF	Siam Bioscience (Thailand)	Preclinical completed Jul 2017	-
Peg GCSF	Nal Pharma (China)	Preclinical	-
Peg GCSF	Gene Techno Science (Japan)	Preclinical	-
Peg GCSF	Chong Kun Dang (South Korea)	Preclinical	-
Peg GCSF	Pfenex (USA)	Pre-clinical completed USFDA Biosimilar initial advisory meeting stage	-
Peg GCSF	Amega Biotech (Argentina)	Preclinical	-
Peg GCSF	Biocure Technology (Korea)	Preclinical	-
Peg GCSF	Aurobindo (India)	Early stage development	-
Peg GCSF	Karyo Biologics (USA)	Pipeline	-

Summary

Molecule	Company	Stage of Development	Partner
Pegaspargase	Genova Biopharmaceuticals Ltd. (India)	Approved (India)	Emcure Pharmaceuticals Ltd (India)
Pegaspargase	Jiangsu Hengrui Medicine (China)	Approved (China)	-
Pegaspargase	Beijing SL Pharmaceutical (China)	CT ongoing, Target Completion Unknown	-
Pegaspargase	Xbrane Biopharma (Sweden)	Preclinical	-
Pegaspargase	Pfenex (USA)	Preclinical	Jazz Pharmaceuticals, Strides Acrolab (Ireland/India)
Pegaspargase	Amega Biotech (Argentina)	Preclinical	-
Pembrolizumab	NeuClone (Australia)	Preclinical	-
Pembrolizumab	Celltrion (South Korea)	Pipeline	-
Pembrolizumab	BioXpress Therapeutics SA (Switzerland)	Pipeline	-
Pembrolizumab	Dr Reddy's Laboratories (India)	Pipeline	-
Pembrolizumab	DM Bio (Korea)	Early Research	-
Pertuzumab	CinnaGen (Iran)	Phase 3 CT –EM Completed	-
Pertuzumab	Shanghai Henlius Biotech (China)	Phase 1 CT ongoing, Target Completion Dec 2021	-
Pertuzumab	NeuClone (Australia)	Preclinical	Serum Institute of India (India)
Pertuzumab	Sinolab (China)	Preclinical	Mabpharm (China)
Pertuzumab	JHL Biotech, Inc. (Taiwan)	Preclinical	-
Pertuzumab	BioXpress Therapeutics SA (Switzerland)	Pipeline	-

Summary

Molecule	Company	Stage of Development	Partner
Pertuzumab	Dr.Reddy's Laboratories (India)	Pipeline	-
Pertuzumab	Biocon (India)	Pipeline	Mylan (USA)
Pertuzumab	Lupin (India)	Clone and process development	-
Ramucirumab	Shanghai Henlius Biotech (China)	Phase 1 CT ongoing, Target Completion Jul 2020	-
Ramucirumab	JHL Biotech, Inc. (Taiwan)	Preclinical	-
Ramucirumab	BioXpress Therapeutics SA (Switzerland)	Pipeline	-
Ramucirumab	Dr Reddy's Laboratories (India)	Pipeline	-
Ranibizumab	Intas Biopharmaceutical (India)	Approved (India)	-
Ranibizumab	Pfenex/Hospira (United States)	Discontinued	-
Ranibizumab	Samsung Bioepis (Korea)	Phase 3 CT -Global Completed	Biogen (USA, Canada, Europe, Japan, and Australia)
Ranibizumab	Gene Techno Science (Japan) / Senju Pharmaceutical Co.,Ltd. (Japan)	Phase 3 CT -Global Completed	Ocumension Therapeutics (China and Taiwan)
Ranibizumab	Formycon (Germany)	Phase 3 CT -Global Completed, BLA submitted to USFDA	Bioeq GmbH (Global, Coherus [USA])
Ranibizumab	BIOCND / Qilu Pharmaceutical (China)	Phase 3 CT -Global ongoing, Target Completion Feb 2021	-
Ranibizumab	Xbrane Biopharma/ STADA Arzneimittel AG (Sweden/Germany)	Phase 3 CT -Global ongoing, Target Completion Dec 2021	Bausch + Lomb (USA, Canada)
Ranibizumab	Lupin (India)	Phase 3 CT –EM ongoing, Target Completion Unknown	-

Summary

Molecule	Company	Stage of Development	Partner
Ranibizumab	Reliance Life Sciences (India)	Phase 3 CT –EM ongoing, Target Completion Unknown	-
Ranibizumab	Beijing Eastern Biotech (China)	Phase 1 CT ongoing, Target Completion May 2020	-
Ranibizumab	Chong Kun Dang Pharmaceutical (Korea)	Phase 3 CT –EM ongoing, Target Completion Unknown	-
Ranibizumab	Generium Pharmaceuticals (Russia)	Phase 1 CT ongoing, Target Completion Unknown	-
Ranibizumab	Coherus (United States)	Suspended	-
Ranibizumab	Siam Bioscience (Thailand)	Preclinical	-
Ranibizumab	Aurobindo Pharma (India)	Preclinical	-
Ranibizumab	Biocure Technology (Korea)	Preclinical	-
Ranibizumab	Celon Pharma (Poland)	Preclinical	-
Ranibizumab	Paras Biopharmaceuticals (Finland)	Early research	-
Ranibizumab	PlantForm (Canada)	Preclinical	-
Ranibizumab	Polus Biopharm (South Korea)	Pipeline	-
Ranibizumab	Harvest Moon Pharmaceuticals (USA)	Pipeline	-
Rituximab	Dr.Reddy's Laboratories (India)	Phase 3 CT –Global ongoing, Target Completion May 2021 Phase 3 CT –Global ongoing, Target Completion Aug 2021 Marketed in EM	Cinnagen, TR Pharm

Summary

Molecule	Company	Stage of Development	Partner
Rituximab	Intas (India)	Approved (India)	-
Rituximab	mAbxience (Spain)	Approved (Argentina)	-
Rituximab	Biocad (Russia)	Approved (India, Kazakhstan, Sri Lanka, Vietnam, Bolivia), Honduras, Côte d'Ivoire, Egypt, Gabon, Morocco, Senegal, Cuba, Russia)	MED. Pharma Group
Rituximab	Reliance Life Sciences (India)	Approved (India)	Torrent Pharmaceuticals
Rituximab	Hetero (India)	Approved (India, Cambodia, Georgia, Moldova, Sri Lanka, MENA, CIS)	Zydus, Lupin, BioChem (India)
Rituximab	Celltrion (South Korea)	Approved (USA, EU, Australia, South Korea)	Hikma (MENA)
Rituximab	Probiomed (Mexico)	Approved (Bolivia, Chile, Ecuador, Peru) Withdrawn (Mexico)	-
Rituximab	Sandoz (Germany)	Approved (Australia, EU, Japan, Canada) Not Pursuing (USA)	Hexal AG, Kyowa Hakko Kirin (Japan)
Rituximab	Pfizer (USA)	Approved (USA, EU)	-
Rituximab	Mabion (Poland)	Withdrawn	Mylan
Rituximab	Amgen (USA)	BLA submitted to USFDA	-
Rituximab	Innovent Biologics (China)	Under Review (China)	-
Rituximab	JHL Biotech (Taiwan)	Development Terminated	-
Rituximab	Shanghai Henlius Biotech (China)	Approved (China)	Ascentage Pharma

Summary

Molecule	Company	Stage of Development	Partner
Rituximab	Archigen Biologics (UK)	Phase 3 CT-Global ongoing, Target Completion May 2020	-
Rituximab	Lupin (India)	Approved (India)	-
Rituximab	Zenotech Laboratories (India)	Approved (India)	-
Rituximab	AryoGen Biopharma Company (Iran)	Approved (Iran)	-
Rituximab	Shanghai CP Guojian (China)	Phase 3 CT-EM completed	-
Rituximab	Genor Biopharma (China)	Phase 3 CT-EM ongoing, Target Completion Oct 2021	Nanjing Yoko Biomedical Co., Ltd
Rituximab	Cipla (India)	Approved (India)	-
Rituximab	Gedeon Richter (Hungary)	Phase 3 CT-Global Completed	-
Rituximab	Teva Pharmaceutical (Israel)	Phase 1/2 CT Completed	-
Rituximab	Biointegrator (Russia)	Terminated	-
Rituximab	Jiangsu Chia-tai Tianqing Pharmaceutical (China)	Phase 3 CT-EM ongoing, Target Completion Dec 2020	-
Rituximab	Shanghai Pharmaceuticals (China)	Phase 1 CT ongoing, Target Completion Feb 2021	-
Rituximab	Center of Molecular Immunology(Cuba)	Approved (Cuba)	Ministry of Public Health
Rituximab	Zydus Cadila (India)	Phase 3 CT-EM ongoing, Target Completion Sep 2020	-
Rituximab	RPG Life Sciences (India)	Approved (India)	-
Rituximab	Alkem Laboratories (India)	Approved (India)	-
Rituximab	Cadila Pharmaceuticals (India)	Marketed (India)	-

Summary

Molecule	Company	Stage of Development	Partner
Rituximab	International Biotech Center Generium (Russia)	Phase 1 CT ongoing, Target Completion Unknown	Ligand Pharmaceuticals
Rituximab	Apobiologix (Canada)	Phase 1 CT ongoing, Target Completion Unknown	-
Rituximab	Merck KGaA (Germany)	Phase 1 CT Terminated	-
Rituximab	Boehringer Ingelheim (Germany)	2 Phase 3 CT prematurely ended	-
Rituximab	BioXpress Therapeutics SA (Switzerland)	Preclinical	-
Rituximab	Oncobiologics (USA)	Preclinical	-
Rituximab	LG Chem (South Korea)	Preclinical	-
Rituximab	Green Cross (South Korea)	Preclinical	GC Pharma
Rituximab	Schnell Biopharma (South Korea)	Preclinical	Nichi-Iko / Aprogen
Rituximab	Opus Bio (USA)	Preclinical	-
Rituximab	TOT Biopharm (China)	Pipeline	-
Rituximab	Prestige BioPharma (Singapore)	Pipeline	-
Rituximab	Coherus BioSciences (South Korea)	Pipeline	Daiichi Sankyo
Rituximab	AXXO (Germany)	Pipeline	-
Rituximab	Biocon (India)	Phase 1/2 CT Terminated	Vaccinex
Rituximab	Nanogen Biopharmaceutical (Vietnam)	Pipeline	-
Rituximab	Biotrion (South Korea)	Pipeline	-

Summary

Molecule	Company	Stage of Development	Partner
Rituximab	Spectrum Pharmaceuticals (USA)	Pipeline	Viropro
Rituximab	iBio Inc (USA)	Pipeline	CC-Pharming Ltd
Rituximab	Inbiopro Solutions (India)	Pipeline	-
Rituximab	Curaxys (Spain)	Discontinued	-
Rituximab	Kashiv BioSciences (USA)	Discontinued	-
Teriparatide	Pfenex/Alvogen (United States)	Approved (USA), Positive Opinion(EU)	JAMP (Canada), NT Pharma Group Company Ltd (China, Hong Kong, Singapore, Malaysia and Thailand)
Teriparatide	CinnaGen Biotechnology (Iran)	Approved (Iran)	-
Teriparatide	Cadila Healthcare (India)	Approved (India)	-
Teriparatide	USV (India)	Approved (India)	-
Teriparatide	Intas Pharmaceuticals (India)	Approved (India)	-
Teriparatide	Alkem Laboratories Limited (India)	Phase 3 CT –EM ongoing, Target Completion in 2020	-
Teriparatide	Asahi Kasei Pharma Corporation (Japan)	Approved (Japan)	Dong-A ST Co., Ltd (Korea)
Teriparatide	Gedeon Richter (Hungary)	Approved (EU)	Daewon Pharmaceutical (Korea), Mochida Pharmaceutical (Japan). STADA Arzneimittel AG (EU)

Summary

Molecule	Company	Stage of Development	Partner
Teriparatide	Virchow Group (India)	Approved (India, USA)	Sunpharma
Teriparatide	Lupin (India)	Approved (India)	-
Teriparatide	Stelis BioPharma (India)	Phase 1 CT Completed	-
Teriparatide	Biosidus (Argentina)	Approved (Argentina)	-
Teriparatide	Elea (Argentina)	Approved (Argentina)	-
Teriparatide	Suzhou Genemen Biotech (China)	Clinical trials in Male osteoporosis in China (SC) Clinical trials in Postmenopausal osteoporosis in China (SC)	-
Teriparatide	Uni-Bio Science (China)	Phase 3 CT Completed	-
Teriparatide	Shanghai Fudan-Zhangjiang Bio-Pharmaceutical (China)	Phase 1 Completed	-
Teriparatide	Paras Biopharmaceuticals (Finland)	Preclinical	-
Teriparatide	Amega Biotech (Argentina)	Pipeline	-
Teriparatide	Rhein Minapharm Biogenetics (Egypt)	Pipeline	-
Teriparatide	LG Life Sciences (South Korea)	Approved (India)	-
Teriparatide	Alkem (India)	Approved (India)	-
Teriparatide	IPCA LABS (India)	Approved (India)	-
Teriparatide	Lupin (India)	Approved (India)	-
Teriparatide	Emcure Pharmaceuticals Ltd (India)	Approved (India)	-

Summary

Molecule	Company	Stage of Development	Partner
Teriparatide	Cipla (India)	Approved (India)	-
Teriparatide	Corona Remedies (India)	Approved (India)	-
Teriparatide	Bharat Serums & Vaccines Ltd (India)	Approved (India)	-
Teriparatide	Taj Pharma (India)	Approved (India)	-
Teriparatide	Abbott (USA)	Approved (India)	-
Teriparatide	Cadila Pharmaceuticals (USA)	Marketed(India)	-
Tocilizumab	AryoGen Pharmed (Iran)	Approved (India)	-
Tocilizumab	Bio-Thera Solutions (China)	Phase 3 CT-EM ongoing, Target Completion Jun 2021	-
Tocilizumab	Mycenax Biotech Inc. (Taiwan)	Phase 1 CT completed	Gedeon Richter (Hungary)
Tocilizumab	Merck KGaA (Germany)	Phase 3 CT-Global ongoing, Target Completion Apr 2021	Fresenius Kabi (Germany)
Tocilizumab	Jiangsu Qyuns Therapeutics Co.,Ltd. (China)	Phase 1 CT ongoing, Target Completion unknown	-
Tocilizumab	EPIRUS Biopharmaceuticals (USA)	Preclinical	Livzon Mabpharm Inc./ Polpharma (China/Poland)
Tocilizumab	BioXpress Therapeutics SA (Switzerland)	Preclinical	-
Tocilizumab	Outlook Therapeutics (United States)	Preclinical	-
Tocilizumab	Dr.Reddy's Laboratories (India)	Preclinical	-
Tocilizumab	Hisun Pharmaceutical (China)	Early Research	-
Tocilizumab	Pan Pharmaceuticals (Australia)	Discontinued	-

Summary

Molecule	Company	Stage of Development	Partner
Trastuzumab	Biocon (India)	Approved (Australia, India, Canada, EU, Brazil, USA)	Mylan (USA), Abdi Ibrahim Remede Pharma (Algeria)
Trastuzumab	Shanghai Henlius Biotech (China)	Approved (China)	-
Trastuzumab	Celltrion (South Korea)	Approved (Australia, China, South Korea, Canada, EU, USA)	Teva, Nippon Kayaku Co.,Ltd (Japan), Mundipharma (Hong Kong, Taiwan), Hikma (MENA)
Trastuzumab	Reliance Life Sciences (India)	Approved (India)	Lupin (India)
Trastuzumab	Samsung Bioepis (South Korea)	Approved (EU,USA)	Daewoong Pharmaceutical (South Korea)
Trastuzumab	Synthon (Netherlands)	Approved (EU,USA)	Amgen, Daiichi Sankyo
Trastuzumab	Pfizer/ Hospira (USA)	Approved (EU,USA)	-
Trastuzumab	Hanwha Biologics (South Korea)	Under Review (EU)	Prestige Biopharma (Russia), Mundipharma (parts of EU)
Trastuzumab	Zydus Cadila (India)	Approved (India, Mexico Turkey, Kazakhstan)	-
Trastuzumab	Biocad (Russia)	Approved (India, Sri Lanka, Russia, Syria)	-
Trastuzumab	Dr Reddy's Laboratories (India)	Approved (India)	-
Trastuzumab	Meiji Seika Pharma Co., Ltd./Dong-A Pharmaceutical (Japan/Korea)	Phase 1 CT Completed	-
Trastuzumab	Intas (India)	Approved (India)	-

Summary

Molecule	Company	Stage of Development	Partner
Trastuzumab	Alteogen (South Korea)	Phase 3 CT –Global Planned	Cristália Produtos Químicos Farmacêuticos Ltda. (Brazil)
Trastuzumab	EirGenix (Taiwan)	Phase 3 CT-Global ongoing, Target Completion Jan 2022	Sandoz
Trastuzumab	AryoGen Pharmed Co, (Iran)	Approved (Iran)	-
Trastuzumab	United BioPharma (Taiwan)	Phase 1 CT Completed	-
Trastuzumab	Glenmark (India)	Phase 3 CT-EM ongoing, Target Completion Unknown	-
Trastuzumab	Shanghai CP Guojian Pharmaceutical (China)	Approved (China)	3SBio
Trastuzumab	Tanvex BioPharma , Inc. (Taiwan)	Phase 3 CT-Global ongoing, Target Completion Dec 2020 Phase 3 CT-Global ongoing, Target Completion Nov 2021	-
Trastuzumab	Genor Biopharma (China)	Phase 3 CT-EM ongoing, Target Completion Nov 2020	-
Trastuzumab	Anhui Anke Biotechnology (China)	Phase 3 CT-EM ongoing, Target Completion Unknown	-
Trastuzumab	Hetero (India)	Phase 3 CT-EM ongoing, Target Completion Mar 2021	-
Trastuzumab	Sinomab (Hong Kong)	Phase 1 CT ongoing, Target Completion Aug 2020	Mabpharm
Trastuzumab	NeuClone/Serum Institute of India (Australia/India)	Phase 1 CT Completed	-
Trastuzumab	Shanghai Institute Of Biological Products (China)	Phase 3 CT-EM ongoing, Target Completion Jul 2021	-
Trastuzumab	Zhejiang Hisun Pharmaceutical (China)	Phase 1 CT Completed	-
Trastuzumab	STC Biologics (USA)	Phase 1 CT Completed	-

Summary

Molecule	Company	Stage of Development	Partner
Trastuzumab	Livzon Pharma (China)	Phase 1 CT Completed	-
Trastuzumab	Hualan genetic engineering (China)	Phase 1 CT Completed	-
Trastuzumab	BioXpress Therapeutics SA (Switzerland)	CT ongoing, Target Completion Unknown	-
Trastuzumab	ISU Abxis (South Korea)	Preclinical	-
Trastuzumab	JHL Biotech, Inc. (Taiwan)	Terminated	-
Trastuzumab	Karyo Biologics (USA)	Preclinical	-
Trastuzumab	Protheragen (USA)	Preclinical	-
Trastuzumab	Harvest Moon Pharmaceuticals (USA)	Preclinical	-
Trastuzumab	Bionovis; The Instituto Vital Brazil/ Janssen and Merck (Brazil)	Preclinical	-
Trastuzumab	International Biotech Center Generium (Russia)	Preclinical	-
Trastuzumab	Outlook Therapeutics/Viropro (USA)	Preclinical	-
Trastuzumab	Lupin (India)	Preclinical	-
Trastuzumab	Apotex (Apobiologix) (Canada)	Preclinical	-
Trastuzumab	PlantForm (Canada)	For Novel indication, looking for partners Discontinued preclinical for breast cancer in Canada	-

Summary

Molecule	Company	Stage of Development	Partner
Trastuzumab	mAbxience (Spain)	Preclinical	-
Trastuzumab	Biointegrator (Russia)	Preclinical	-
Trastuzumab	Mabion (Poland)	Planned Clinical trial in Poland	-
Trastuzumab	Aurobindo Pharma (India)	Clone and Process Development	-
Trastuzumab	Gedeon Richter (Hungary)	Preclinical	-
Trastuzumab	Mycenax Biotech (Taiwan)	Pipeline (Early research completed comparability)	-
Trastuzumab	Nanogen Biopharmaceutical (Vietnam)	Pipeline (Early research for API technology transfer)	-
Trastuzumab	Aprogen (South Korea)	Pipeline	Nichi-Iko Pharmaceutical
Trastuzumab	AXXO GMBH (Germany)	Pipeline	-
Trastuzumab	Curaxys (Spain)	Pipeline	-
Trastuzumab	Paras Biopharmaceuticals (Finland)	Pipeline	-
Trastuzumab	ProBioGen AG (Germany)	Early Research	Bio Farma
Trastuzumab	Epirus Biopharmaceutical (USA)	Discontinued	-
Trastuzumab	Adello Biologics (USA)	Discontinued in USA	-

Summary

Molecule	Company	Stage of Development	Partner
Trastuzumab Deruxtecan	Daiichi Sankyo, Inc (Japan)	Approved (USA)	AstraZeneca
Trastuzumab-Monomethyl Auristatin E	Alteogen Inc. (South Korea)	Phase 1 CT ongoing, Target Completion Oct 2020	-
Trastuzumab Monomethyl Auristatin F	Ambrox Inc. (USA)	Phase 1 CT ongoing, Target Completion Aug 2020	Zhejiang Medicine
Trastuzumab Monomethyl Auristatin F	Shanghai Fosun Pharmaceutical (China)	Phase 1 CT ongoing, Target Completion Jun 2025	-
Trastuzumab Conjugate	Biointegrator LLC (Russia)	Phase 1 Terminated	-
Trastuzumab Duocarmazine	Byondis (Netherlands)	Phase 3 CT -Global ongoing, Target Completion May 2021	-
Trastuzumab-Emtansine	ImmunoGen (USA)	Phase 2 CT Completed	Hoffmann-La Roche (Switzerland)
Trastuzumab-Emtansine	Cadila Healthcare Ltd (India)	Phase 3 CT -EM Completed	-
Trastuzumab-Emtansine	Hetero Biopharma (India)	Preclinical	-
Trastuzumab Dolastatin 10 derivative (CT-P26)	Celltrion (South Korea)	Preclinical	-
Trastuzumab conjugate with PM050489 (MI130004)	PharmaMar S. A (Spain)	Preclinical	-
Trastuzumab-PBD Dimers ADCT-502-	ADC Therapeutics (Switzerland)	Phase 1 Terminated in USA and Belgium	-

Summary

Molecule	Company	Stage of Development	Partner
Ustekinumab	Formycon (Germany)	Phase 1 CT ongoing, Target Completion Unknown	Aristo Pharma GmbH (Germany)
Ustekinumab	Neuclone (Australia)	Phase 1 CT completed	Serum Institute of India (India)
Ustekinumab	DM Bio (Korea) [JV of Meiji and Dong-A (Japan/ Korea)]	Phase 1 CT ongoing, Target Completion Unknown	-
Ustekinumab	Jiangsu Qyuns Therapeutics (China)	Phase 1 CT ongoing, Target Completion Unknown	-
Ustekinumab	Biothera Solutions (USA)	Phase 1 CT ongoing, Target Completion Sep 2021	-
Ustekinumab	Celltrion (South Korea)	Phase 1 CT ongoing, Target Completion Feb 2021	-
Ustekinumab	Oncobiologics (Outlook Therapeutics) (USA)	Preclinical	-
Ustekinumab	Bioceros (Netherlands)	Preclinical	Polpharma (Poland)
Ustekinumab	Alvotech (Iceland)	Preclinical	Abdi Ibrahim Pharmaceuticals (Turkey), Fuji Pharma (Japan)
Ustekinumab	BioXpress Therapeutics SA (Switzerland)	Preclinical	-
Ustekinumab	JHL Biotech (Taiwan)	Preclinical	-
Ustekinumab	Harvest Moon Pharmaceuticals (USA)	Pipeline	-

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