

Table 3. Monoclonal antibodies in Phase 2/3 or 3 clinical studies for cancer indications

Primary sponsoring company	INN or code name	Molecular format	Target(s)	Most advanced		Therapeutic area
				phase	Phase 3 indications	
Janssen Research & Development, LLC	HNJ-56022473	Humanized mAb Murine IgG1,	CD123	Phase 2/3	Acute myeloid leukemia	Cancer
Actinium Pharmaceuticals	Iomab-B	radiolabeled Humanized IgG1,	CD45	Phase 3	Acute myeloid leukemia	Cancer
Seattle Genetics	Vadastuximab talirine	ADC	CD33	Phase 3	Acute myeloid leukemia	Cancer
TG Therapeutics	Ublituximab	Chimeric IgG1	CD20	Phase 3	Chronic lymphocytic leukemia	Cancer
Xencor	XMAB-5574, MOR208	Humanized IgG1	CD19	Phase 2/3	Diffuse large B-cell lymphoma	Cancer
AstraZeneca/MedImmune LLC	Moxetumomab pasudotox	Murine IgG1 dsFv, immunotoxin	CD22	Phase 3	Hairy cell leukemia	Cancer
Viventia Bio	Opportuzumab monatox	Humanized scFv, immunotoxin	EpCAM	Phase 3	Bladder cancer	Cancer
Merrimack Pharmaceuticals	MM-302	scFv-targeted liposome containing doxorubicin	HER2	Phase 2/3	Breast cancer	Cancer
MacroGenics	Margetuximab	Chimeric IgG1	HER2	Phase 3	Breast cancer Gastric cancer or gastroesophageal junction adenocarcinoma; ulcerative colitis (Phase 2/3)	Cancer
Gilead Sciences	GS-5745	Humanized IgG4	MMP9	Phase 3		Cancer; Immune-mediated disorders
AbbVie	Depatuxizumab	Humanized IgG1,				
AstraZeneca/MedImmune LLC	mafodotin	ADC	EGFR	Phase 2/3	Glioblastoma	Cancer
	Tremelimumab	Human IgG2	CTLA4	Phase 3	NSCLC, head & neck cancer, bladder cancer, breast NSCLC, head & neck cancer, bladder cancer, breast cancer	Cancer
AstraZeneca/MedImmune LLC	Durvalumab (MEDI-4736)	Human IgG1	PD-L1 (CD274)	Phase 3		Cancer
EMD Serono	Avelumab	Human IgG1	PD-L1 (CD274)	Phase 3	NSCLC	Cancer
Recombio SL	Racotumomab	Murine IgG1	GM3	Phase 3	NSCLC	Cancer

Table 4. Monoclonal antibodies in Phase 2/3 or 3 clinical studies for non-cancer indications

Primary sponsoring company	INN or code name	Molecular format	Target(s)	Most advanced phase	Phase 3 indications	Therapeutic area
Kyowa Hakko Kirin	Burosumab	Human IgG1	FGF23	Phase 3	X-linked hypophosphatemia	Bone/Skeletal
		Humanized	von Willebrand factor	Phase 3	Acquired thrombotic thrombocytopenic purpura	Cardiovascular
Abylrx	Caplacizumab	nanobody		Phase 3		Cardiovascular
Pfizer	Bococizumab	Humanized IgG2	PCSK-9	Phase 3	High cholesterol	Cardiovascular
		Humanized IgG4,				
Chugai Pharmaceuticals/Roche	Emicizumab	bispecific	Factor IXa, Factor X	Phase 3	Hemophilia A	Hemostasis
Shire	Lanadelumab	Human IgG1	Plasma kallikrein	Phase 3	Hereditary angioedema attacks	Hemostasis
Prothena Therapeutics Ltd.	NEOD001	Humanized IgG1	Amyloid	Phase 3	Primary systemic amyloidosis	Hemostasis
LFB Group	Roledumab	Human IgG1	Rhesus D	Phase 2/3	Rh disease	Hemostasis
Genentech	Lebrikizumab	Humanized IgG4	IL-13	Phase 3	Asthma	Immunological
AstraZeneca/MedImmune LLC	Tralokinumab	Human IgG4	IL-13	Phase 3	Asthma	Immunological
AstraZeneca/MedImmune LLC	Benralizumab	Humanized IgG1	IL-5 receptor	Phase 3	Asthma; chronic obstructive pulmonary disease	Immunological
Regeneron Pharmaceuticals	Dupilumab	Human IgG4	IL-4 receptor alpha	Phase 3	Atopic dermatitis, asthma	Immunological
Adienne Pharma & Biotech	Begelomab	Murine IgG2b	CD26	Phase 3	Graft-versus-host disease	Immunological
NovImmune	NI-0501	Human IgG1	IFN gamma	Phase 2/3	Primary Hemophagocytic Lymphohistiocytosis	Immunological
Boehringer Ingelheim	Risankizumab	Humanized IgG1	IL-23 p19	Phase 3	Psoriasis	Immunological
Pharmaceuticals / AbbVie	Guselkumab	Human IgG1	IL-23 p19 subunit	Phase 3	Psoriasis	Immunological
Janssen Research & Development, LLC	Tildrakizumab	Humanized IgG1	IL-23 p19 subunit	Phase 3	Psoriasis	Immunological
Merck Sharp & Dohme Corp	Sirukumab	Human IgG1	IL-6	Phase 3	Rheumatoid arthritis	Immunological
Janssen Research & Development, LLC			IF alpha, beta, omega receptor 1	Phase 3	Systemic lupus erythematosus	Immunological
AstraZeneca/MedImmune LLC	Anifrolumab	Human IgG1	CD22	Phase 3	Systemic lupus erythematosus	Immunological
UCB, Inc.	Epratuzumab	Humanized IgG1	Alpha4-beta7/alphaE-beta7 integrin receptor	Phase 3		Immunological
Genentech	Etolizumab	Humanized IgG1		Phase 3	Ulcerative colitis; Crohn's disease	Immunological
AstraZeneca/MedImmune LLC	Inebilizumab	Humanized IgG1	CD19	Phase 2/3	Neuromyelitis optica and neuromyelitis optica spectrum disorders	Immunological/Ophthalmic
Chugai Pharmaceuticals/Roche	SA237	Humanized IgG2	IL-6R	Phase 3	Neuromyelitis optica and neuromyelitis optica spectrum disorders	Immunological/Ophthalmic
CytoDyn	PRO-140, PA14	Humanized IgG4	CCR5	Phase 2/3	HIV infection	Infectious disease
TailMed Biologics Inc.	Ibalizumab	Humanized IgG4	CD4	Phase 3	HIV infection	Infectious disease
Regeneron	Suptavumab	Human IgG1	RSV F protein	Phase 3	RSV infection prevention	Infectious disease
Novartis Pharmaceuticals Corp.	Bimagrumab	Human IgG1	Activin A receptor type IIB	Phase 2/3	Sporadic inclusion body myositis	Muscular
Genentech	Crenezumab	Humanized IgG4	Amyloid beta	Phase 3	Alzheimer's disease	Neurological
Biogen	Aducanumab	Human IgG1	Amyloid beta	Phase 3	Alzheimer's disease	Neurological
Hoffmann-La Roche	Gantenerumab	Human IgG1	Amyloid beta	Phase 3	Alzheimer's disease	Neurological
Eli Lilly & Company	Solanezumab	Humanized IgG1	Amyloid beta	Phase 3	Alzheimer's disease	Neurological
Eli Lilly & Company	Galcanezumab	Humanized IgG4	Calcitonin gene-related peptide	Phase 3	Chronic or episodic cluster headache	Neurological
Alder Biopharmaceuticals	ALD403	Humanized IgG1	CGRP	Phase 3	Episodic migraines	Neurological
Teva Pharmaceutical Industries	TEV-48125	Humanized mAb	Calcitonin gene-related peptide	Phase 3	Migraine	Neurological
Amgen	Erenumab	Human IgG2	CGRP receptor	Phase 3	Migraine	Neurological
Pfizer; Eli Lilly & Company	Tanezumab	Humanized IgG2	Nerve growth factor	Phase 3	Pain - lower back	Neurological
Regeneron Pharmaceuticals	Fasinumab	Human IgG4	Nerve growth factor	Phase 2/3	Pain due to osteoarthritis of knee or hip	Neurological
Genentech	Lampalizumab	Humanized IgG1, Fab	Factor D	Phase 3	Geographic atrophy	Ophthalmic
Novartis Pharmaceuticals Corp.	Brolucizumab	Humanized scFv	VEGF-A	Phase 3	Neovascular age-related macular degeneration	Ophthalmic