

Monoclonal Antibodies for Cancer Treatment

Note these are unconjugated MABs. Conjugates used for cancer therapy are on a separate sheet.

Drug	Brand name	Platform	Immunoglobulin G subtype	Target
Alemtuzumab	Campath	humanized	G1	CD52
Atezolizumab	Tecentriq	humanized	G1	PD-L1
Avelumab	Bavencio	human	G1	PD-L1
Belantamab	Blenrep	humanized	G1	BCMA
Bevacizumab	Avastin	humanized	G1	VEGF
Blinatumomab	Blincyto	mouse	G1	CD3 on T cells and CD19 on B cells
Brentuximab	Adcetris	chimeric human/mouse	G1	CD30
Cemiplimab	Libtayo	humanized from mouse	G4	PD-1
Cetuximab	Erbix	chimeric human/mouse	G1	EGFR
Daratumumab	Darzalex	human	G1	CD38
Dinutuximab	Unituxin	chimeric human/mouse	G2	GD2
Durvalumab	Imfinzi	human	G1	PD-L1
Elotuzumab	Emplicit	humanized	G1	SLAMF7
Ipilimumab	Yervoy	human	G1	CTLA-4
Isatuximab	Sarclisa	chimeric human/mouse	G1	CD38
Margetuximab	Margenza	chimeric human/mouse	G1	HER2
Mogamulizumab	Poteligeo	humanized	G1	CCR4

Naxitamab	Danyelza	humanized	G1	GD2
Necitumumab	Portrazza	human	G1	EGFR
Nivolumab	Opdivo	human	G4	PD-1
Obinutuzumab	Gazyva	humanized	G1	CD20
Ofatumumab	Arzerra	human	G1	CD20
Olaratumab	Lartruvo	human	G1	PDGFR α
Panitumumab	Vectibix	human	G2	EGFR
Pembrolizumab	Keytruda	humanized	G4	PD-1
Pertuzumab	Perjeta	humanized	G1	HER dimerization
Ramucirumab	Cyramza	human	G1	VEGFR2
Rituximab	Rituxan	chimeric human/mouse	G4	CD20
Siltuximab	Sylvant	chimeric human/mouse	G1	interleukin-6
Tafasitamab-cixix	Monjuvi	humanized	G1	CD19
Trastuzumab	Herceptin	humanized	G1	HER2

Immunoglobulin subtype

There are five immunoglobulins in the human body. IgM, IgD, IgG, IgA, and IgE. IgG is the most common and the one that MABs used for cancer therapy are part of. There are four subtypes of IgG: IgG1, IgG2, IgG3, and IgG4. IgG1 (or G1) is the most prevalent in the bloodstream and the one which forms the basis for most MABs.

Targets

CD stands for cluster of differentiation. A scientific method for characterizing cells based on surface molecules that allow different phenotypes to be identified.

CD molecules are often receptors. Monoclonal antibodies used for therapy often exploit this characteristic. They target the molecules and the MAB connects with the cancer cell.

BCMA - B-cell maturation antigen, also called CD269.

CCR4 - C-C chemokine receptor type 4 - CD194

CTLA4 or CTLA-4 (cytotoxic T-lymphocyte-associated protein 4), also known as CD152, protein receptor

EGFR - Epidermal growth factor receptor, a tyrosine kinase receptor

GD2 is a disialoganglioside (a glycolipid) present on surface of some cancer cells

HER2 - human epidermal growth factor receptor 2

PD-L1 - programmed death ligand 1 - aka CD274. The PD-1 (programmed cell death-1) receptor is expressed on the surface of activated T cells. Its ligands, PD-L1 and PD-L2, are expressed on the surface of dendritic cells or macrophages. PD-1 and PD-L1/PD-L2 belong to the family of immune checkpoint proteins that act as co-inhibitory factors that can halt or limit the development of the T cell response.

SLAMF7, CD319, SLAM (signaling lymphocyte activation molecule) family member 7

VEGF - Vascular endothelial growth factor is a signalling protein that promotes the growth of new blood vessels.

<https://callaix.com/types/monoclonal>

