Monoclonal Antibody Conjugates for Cancer Treatment

These medicines are each a conjugate of a monoclonal antibody and a substance toxic to cancer cells. Unconjugated MABs used for cancer therapy are on a separate sheet.

Drug	Brand name	Platform	Immunoglobulin G subtype	Target	Toxin
Brentuximab vedotin	Adcetris	chimeric human/mouse	G1	CD30	monomethyl auristatin E (MMAE)
Denileukin diftitox	Ontak	fusion protein	G1	CD22	diphtheria toxin (DT388)
Enfortumab vedotin-ejfv	Padcev	human	G1	Nectin-4	monomethyl auristatin E (MMAE)
Fam-trastuzumab deruxtecan-nxki	Enhertu	humanized	G1	HER2	deruxtecan - a derivative of exatecan and a topoisomerase I inhibitor
Gemtuzumab ozogamicin	Mylotarg	humanized	G4	CD33	calicheamicin (antibiotic)
Inotuzumab ozogamicin	Besponsa	humanized	G4	CD22	calicheamicin (antibiotic)
Loncastuximab tesirine	Zynlonta	humanized	G1	CD19	pyrrolobenzodiazepine dimer
Moxetumomab pasudotox-tdfk	Lumoxiti	mouse	G1	GD2	PE38 (fragment of Pseudomonas exotoxin A)
Polatuzumab vedotin	Polivy	humanized	G1	CD79b	monomethyl auristatin E (MMAE)

Sacituzumab govitecan-hziy	Trodelvy	humanized	G1	TROP-2	topoisomerase inhibitor SN38
Tagraxofusp-erzs	Elzonris	fusion protein	G1	CD123/interleukin 3 (IL-3) receptor α (IL-3Rα)	diphtheria toxin (DT388)
Trastuzumab emtansine	Kadcyla	humanized	G1	HER2	mertansine, also called DM1
Radioconjugates					
Ibritumomab	Zevalin	mouse	G1	CD20	Y-90 or In-111 radioactive isotope
Lutetium Lu 177 Dotatate	Lutathera	N/A	N/A	Somatostatin receptors	Lu-77 radioactive isotope
Tositumomab	Bexxar	mouse	G1	CD22	I-131 radioactive isotope

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.

GD2 is a disialoganglioside (a glycolipid) present on surface of some cancer cells
HER2 - human epidermal growth factor receptor 2
Nectin-4 - one of four immunoglobulin superfamily members (nectin-1 to -4). Nectin-4 is known to contribute to tumor proliferation.
Somatostatin receptor - found expressed at relatively higher levels in many tumor cells
TROP-2 - Trophoblast cell surface antigen 2 (Trop-2) is a glycoprotein

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