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(54) Title: CD37 IMMUNOTHERAPEUTIC AND COMBINATION WITH BIFUNCTIONAL CHEMOTHERAPEUTIC THEREOF

HEAVY CHAIN

	FR1	CDR1	FR2	CDR2
G28-1	AVQLQQSGPESEKPGASVKISCKASGYSFT	GYNMN	WVKQNNGKSLEWIG	NIDPYYGGTTYNRKFKG
CAS-024	EVQLVQSGAEVKKPGESLKISCKGSGYSFT	GYNMN	WVRQMPGKGLEWMG	NIDPYYGGTTYNRKFKG
Consensus	-VQL-QSG-E--KPG-S-KISCK-SGYSFT	GYNMN	WV-Q--GK-LEW-G	NIDPYYGGTTYNRKFKG

	FR3	CDR3	FR4
G28-1	KATLTVDKSSSTAYMQLKSLTSEDSAVYYCAR	SVGPMDY	WGQGTSVTVSS
CAS-024	QVTISADKSISTAYLQWSSLKASDTAMYYCAR	SVGPFDS	WGQGTLVTVSS
Consensus	--T---DKS-STAY-Q--SL---D-A-YYCAR	SVGP-D-	WGQGT-VTVSS

LIGHT CHAIN

	FR1	CDR1	FR2	CDR2
G28-1	DIQMTQSPASLSASVGETVTITC	RTSENVYSYLA	WYQQKQGKSPQLLVS	FAKTLAE
CAS-024	EIVLTQSPATLSLSPGERATLSC	RASENVYSYLA	WYQQKPGQAPRLLIY	FAKTLAE
Consensus	-I--TQSPATLS-S-GE--T--C	R-SENVYSYLA	WYQQK-G--P-LL--	FAKTLAE

	FR3	CDR3	FR4
G28-1	GVPSRFSGSGSGTQFSLKISSLQPEDSGSYFC	QHHSDNPWT	FGQGTKVEIK
CAS-024	GIPARFSGSGSGTDFTLTISSLEPEDFAVYYC	QHHSDNPWT	FGQGTKVEIK
Consensus	G-P-RFSGSGSGT-F-L-ISSL-PED---Y-C	QHHSDNPWT	FGQGTKVEIK

Fig. 1

(57) Abstract: The present disclosure provides a humanized anti-CD37 small modular immunopharmaceutical (SMIP) molecule, as well as synergistic combination therapies of CD37-specific binding molecules (such as anti-CD37 SMIP proteins or antibodies) with bifunctional chemotherapeutics (such as bendamustine) that can be administered concurrently or sequentially, for use in treating or preventing B cell related autoimmune, inflammatory, or hyperproliferative diseases.

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