

April 29, 2015

STATEMENT ON A NONPROPRIETARY NAME ADOPTED BY THE USAN COUNCIL

USAN (CD-98) VANUCIZUMAB

PRONUNCIATION van" ue siz' ue mab

THERAPEUTIC CLAIM Treatment of cancer

CHEMICAL NAMES

1. Immunoglobulin G1, anti-(human angiopoietin 2) (human monoclonal heavy chain), disulfide with human monoclonal light chain, dimer with immunoglobulin G1, anti-(human vascular endothelial growth factor) (human-*Mus musculus* monoclonal heavy chain), disulfide with human-*Mus musculus* monoclonal light chain
2. Recombined immunoglobulin G1-kappa/lambda anti-(human angiopoietin 2 (ANG-2) / human vascular endothelial growth factor A (VEGF-A, vascular permeability factor, VPGF)), humanized monoclonal antibody: γ 1 heavy chain anti-ANG-2 (1-463) [humanVH (*Homo sapiens* IGHV1-2*02 (100%) -(IGHD)-IGHJ3*02) [8.8.22] (1-129) humanCH (*Homo sapiens* IGKC*01 {R¹>A (130) T²>S (131)} (130-236) -IGHG1*01 {del-(CH1-hinge 1-5) CH3 Y⁹>C (365) T²⁶>S (382) L²⁸>A (384) Y⁶⁷>V (423)} (237-463)], (236-213')-disulfide with light chain anti-ANG-2 (1'-213') [glutaminyl-prolyl-glycyl (1'-3') -human V-LAMBDA (*Homo sapiens* IGLV3-21*02 (100%) -IGLJ1*01) [6.3.11] (4'-108') -seryl-seryl (109'-110') -*Homo sapiens* IGHG1*01 (CH1 (111'-208') -hinge 1-5 (209'-213')) (111'-213)]; γ 1 heavy chain anti-VEGF-A (1"-453") [humanized VH (*Homo sapiens* IGHV3-23*03 (77%) -(IGHD)-IGHJ4*01) [8.8.16] (1"-123") -*Homo sapiens* IGHG1*01 {CH3 S¹⁴>C (360"), T²⁶>W (372")}] (124"-453"), (226"-214")-disulfide with kappa light chain anti-VEGFA (1'''-214''') [humanized V-KAPPA (*Homo sapiens* IGKV1-16*01 (88%) -IGKJ1*01) [6.3.9] (1'''-107''') -*Homo sapiens* IGKC*01 (108'''-214''')]; dimer (232"-242:235"-245:360"-365)-trisdisulfide

STRUCTURAL FORMULA

Heavy Chain 1

QVQLVQSGAE	VKKPGASVKV	SCKASGYTFT	GYMHWVRQA	PGQGLEWMGW	50
INPNSGGTNY	AQKFQGRVTM	TRDTSISTAY	MELSRLRSD	TAVYYCARSP	100
NPYYDSSGY	YYPGAFDIWG	QGTMTVSSA	SVAAPSVFIF	PPSDEQLKSG	150
TASVVCLLNN	FYPREAKVQW	KVDNALQSGN	SQESVTEQDS	KDSTYSLST	200
LTLSKADYEK	HKVYACEVTH	QGLSSPVTKS	FNRGECDKTH	TCPPCPAPEL	250
LGGPSVFLFP	PKPKDTLMIS	RTPEVTCVVV	DVSHEDPEVK	FNWYVDGVEV	300
HNAKTKPREE	QYNSTYRVVS	VLTVLHQDWL	NGKEYKCKVS	NKALPAPIEK	350
TISKAKGQPR	EPQVCTLPPS	RDELTKNQVS	LSCAVKGFYP	SDIAVEWESN	400
GQPENNYKTT	PPVLDSDGSF	FLVSKLTVDK	SRWQQGNVFS	CSVMHEALHN	450
HYTQKSLSL	PGK				463

Heavy Chain 2

EVQLVESGGG	LVQPGGSLRL	SCAASGYTFT	NYGMNWVRQA	PGKGLEWVGW	50
INTYTGEPY	AADFRRRFTF	SLDTSKSTAY	LQMNSLRAED	TAVVYCAKYP	100
HYYGSSHWYF	DVWGQGTLLV	VSSASTKGPS	VFPLAPSSKS	TSGGTAALGC	150
LVKDYFPEPV	TVSWNSGALT	SGVHTFPAVL	QSSGLYSLSS	VVTVPSSSLG	200
TQTYICNVNH	KPSNTKVDKK	VEPKSCDKTH	TCPPCPAPEL	LGGPSVFLFP	250
PKPKDTLMIS	RTPEVTCVVV	DVSHEDPEVK	FNWYVDGVEV	HNAKTKPREE	300
QYNSTYRVVS	VLTVLHQDWL	NGKEYKCKVS	NKALPAPIEK	TISKAKGQPR	350
EPQVYTLPPC	RDELTKNQVS	LWCLVKGFYP	SDIAVEWESN	GQPENNYKTT	400
PPVLDSDGSF	FLYSKLTVDK	SRWQQGNVFS	CSVMHEALHN	HYTQKSLSL	450
PGK					453

Light Chain 2

DIQMTQSPSS	LSASVGDRTV	ITCSASQDIS	NYLNWYQQKP	GKAPKVLIIYF	50
TSSLHSGVPS	RFGSGSGTD	FRTLTISLQP	EDFATYYCQQ	YSTVPWTFGQ	100
GTKVEIKRTV	AAPSVFIFPP	SDEQLKSGTA	SVVCLLNNFY	PREAKVQWKV	150
DNALQSGNSQ	ESVTEQDSKD	STYSLSSTLT	LSKADYKHK	VYACEVTHQG	200
LSSPVTKSFN	RGEC				214

Light Chain 1

QPGLTQPPSV	SVAPGQTARI	TCGNNIGSK	SVHWYQQKPG	QAPVLVYDD	50
SDRPSGIPER	FSGNSGNTA	TLTISRVEAG	DEADYYCQVW	DSSSDHYVFG	100
TGTVKTVLSS	ASTKGPSVFP	LAPSSKSTSG	GTAALGCLVK	DYFPEPVTVS	150
WNSGALTSGV	HTFPAVLQSS	GLYSLSSVVT	VPSSSLGTQT	YICNVNHKPS	200
NTKVDDKVEP	KSC				213

Disulfide Bridges

22-96	22'-96'	23''-88''	22'''-87'''	134''-194''	137'''-193'''
150'-206'	156-216	226'-214''	236-213'''	242-232'	245-235'
267'-327'	277-337	373'-431'	383-441		

Glycosylation Sites

Asn-297	Asn-297'
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MOLECULAR FORMULA $C_{6529}H_{10033}N_{1733}O_{2038}S_{46}$

MOLECULAR WEIGHT 146.6 kDa

TRADEMARK None as yet

SPONSOR Genentech/Roche

CODE DESIGNATIONS RG7221, RO5520985

CAS REGISTRY NUMBER 1448221-05-3

UNII B800Z06O8K

WHO NUMBER 9950

gbk