STATEMENT ON A NONPROPRIETARY NAME ADOPTED BY THE USAN COUNCIL

USAN (LM-25)	NEMOLIZUMAB
PRONUNCIATION	ne" moe liz' ue mab
THERAPEUTIC CLAIM	Treatment of atopic dermatitis (AD), treatment of prurigo nodularis (PN) and chronic kidney disease associated pruritus (CKD-aP)

CHEMICAL NAMES

Immunoglobulin G2, anti-(interleukin 31 receptor A) (human-Mus musculus monoclonal CIM331 γ-chain), disulfide with human-Mus musculus monoclonal CIM331 κ-chain, dimer

immunoglobulin G2-kappa, anti-[*Homo sapiens* IL31RA (interleukin 31 receptor subunit alpha)], humanized monoclonal antibody gamma2 heavy chain (1-445) [humanized VH (*Homo sapiens* IGHV1-2*02 (83.70%) -(IGHD)-IGHJ5*01) [8.8.14] (1-121) -*Homo sapiens* IGHG2*01 (CH1 C10>S (135), R12>K (137), E16>G (141), S17>G (142) (122-219), hinge C4>S (223) (220-231), CH2 H30>Q (268) (232-340), CH3 R11>Q (355), Q98>E (419) (341-445)) (122-445)], (224-214')-disulfide with kappa light chain (1'-214') [humanized V-KAPPA (*Homo sapiens* IGKV1-39*01 (82.10%) -IGKJ4*01) [6.3.9] (1'-107') -*Homo sapiens* IGKC*01 (108'-214')]; dimer (227-227":230-230")-bisdisulfide

STRUCTURAL FORMULA

Heavy chain (CIM331 (anti-IL-31 RA);γ-chain); X, X")

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QVQLVQSGAE  VKKPGASVKV  SCKASGYTFT  GYIMNWVRQA  PGQGLEWMGL     50
INPYNGGTDY  NPQFQDRVTI  TADKSTSTAY  MELSSLRSED  TAVYYCARDG    100
YDDGPYTLET  WGQGTLVTVS  SASTKGPSVF  PLAPSSKSTS  GGTAALGCLV    150
KDYFPEPVTV  SWNSGALTSG  VHTFPAVLQS  SGLYSLSSVV  TVPSSNFGTQ    200
TYTCNVDHKP  SNTKVDKTVE  RKSCVECPPC  PAPPVAGPSV  FLFPPKPKDT    250
LMISRTPEVT  CVVVDVSQED  PEVQFNWYVD  GVEVHNAKTK  PREEQFNSTF    300
RVVSVLTVVH  QDWLNGKEYK  CKVSNKGLPA  PIEKTISKTK  GQPREPQVYT    350
LPPSQEEMTK  NQVSLTCLVK  GFYPSDIAVE  WESNGQPENN  YKTTPPMLDS    400
DGSFFLYSKL  TVDKSRWQEG  NVFSCSVMHE  ALHNHYTQKS  LSLSP        445
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Light chains (CIM331 κ-chain); X', X'")

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DIQMTQSPSS  LSASVGDRVT  ITCQASEDIY  SFVAWYQQKP  GKAPKLLIYN     50'
AQTEAQGVPS  RFSGSGSGTD  FTLTISSLQP  EDFATYYCQH  HYDSPLTFGG    100'
GTKVEIKRTV  AAPSVFIFPP  SDEQLKSGTA  SVVCLLNNFY  PREAKVQWKV    150'
DNALQSGNSQ  ESVTEQDSKD  STYSLSSTLT  LSKADYEKHK  VYACEVTHQG    200'
LSSPVTKSFN  RGEC                                             214'
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Disulfide bridges (denoted in red, bold text, interchain is shaded grey)

22-96	148-204	261-321	367-425
22''-96''	148''-204''	261''-321''	367''-425''
23'-88'	134'-194'	23'''-88'''	134'''-194'''
224-214'	224''-214'''	227-227''	230-230''

Glycosylation sites (most represented N-glycan is G0F)

297 297''

Substitutions into heavy chain variable regions to lower isoelectric point, increase thermal stability, increase neutralizing activity and reduce immunogenicity

S59D Q62P K63Q K65Q
G66D M108L D109E Y110T

Substitutions into light chain variable regions to lower isoelectric point, increase thermal stability, increase neutralizing activity and reduce immunogenicity

R24Q T25A N28D L33V
K52Q L54E K56Q E93D

The CDRs are displayed in bold, underlined (IMGT)

Heavy Chain Modifications (substitutions/deletions) based on human IG2; to improve properties

C131S R133K E137G S138G
C219S H268Q R355Q Q419E
G446[del] K447[del]

MOLECULAR FORMULA	$C_{6384}H_{9814}N_{1678}O_{2034}S_{48}$ (non-glycosylated)
MOLECULAR WEIGHT	144.15 kDa (non-glycosylated)
TRADEMARK	None as yet
SPONSOR	GALDERMA Research and Development LLC.
CODE DESIGNATIONS	CD14152, CIM331
CAS REGISTRY NUMBER	1476039-58-3
UNII	GN465U8B72
WHO NUMBER	10064

gbk