

February 26, 2014

## STATEMENT ON A NONPROPRIETARY NAME ADOPTED BY THE USAN COUNCIL

USAN (bc-60) CLIVATUZUMAB TETRAKETAN

PRONUNCIATION klye" va tooz' ue mab

THERAPEUTIC CLAIM Treatment of pancreatic cancer

## CHEMICAL NAMES

1. Immunoglobulin G1, anti-(mucin) (human-*Mus musculus* monoclonal hPAM4 heavy chain), disulfide with human-*Mus musculus* monoclonal hPAM4  $\kappa$ -chain, dimer, 1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraacetic acid conjugate
2. Immunoglobulin G1-kappa, anti-(human Mucin-1 (MUC-1, PEMT, Episialin, Tumor-associated mucin, EMA, H23AG, PUM, breast carcinoma-associated antigen DF3 or CD227)); humanized mouse monoclonal antibody linked to tetraacetan (DOTA, chelator):  $\gamma$ 1 heavy chain (1-449) [humanized VH (human IGHV1-2\*02 (80%) –IGHJ4\*01) [8.8.6] (1-119) –human IGHG1\*03 (120-249)], (222-215')-disulfide with  $\kappa$  light chain (1'-215') [humanized V-KAPPA (human IGKV1-13\*02 (79%) –IGKJ5\*01) [7.3.9] (1'-108') –human IGKC\*01 (109'-215')], dimer (228-228":231-231")-bisdisulfide, substituted (average of 4 to 7 substitutions) on N<sup>6</sup> of lysyl residus by [4,7,10-tris(carboxymethyl)-1,4,7,10-tetraazacyclodecan-1-yl]acetyl (substitutive tetraacetan)

## STRUCTURAL FORMULA

## Heavy chain

QVQLQQSGAE	VKKPGASVKV	SCEASGYTFP	SYVLHWVKQA	PGQGLEWIGY	50
INPYNDGTQY	NEKFKGKATL	TRDTSINTAY	MELSRLRSD	TAVYYCARGF	100
GGSYGFAYWG	QGTTLVTVSSA	STKGPSVFPL	APSSKSTSGG	TAALGCLVKD	150
YFPEPVTVSW	NSGALTSQVH	TFFPAVLQSSG	LYSLSSVTV	PSSSLGTQTY	200
ICNVNHKPSN	TKVDKRVPEK	SCDKTHTCPP	CPAPELLGGP	SVFLFPPKPK	250
DTLMISRTPE	VTCVVDVSH	EDPEVKFNWY	VDGVEVHNAK	TKPREEQYNS	300
TYRVVSVLTV	LHQDWLNGKE	YKCKVSNKAL	PAPIEKTISK	AKGQPREPQV	350
YTLPPSREEM	TKNQVSLTCL	VKGFYPSDIA	VEWESNGQPE	NNYKTTTPVL	400
DSDGSFFLYS	KLTVDKSRWQ	QGNVFSCSVM	HEALHNHYTQ	KSLSLSPGK	449

## Light chain

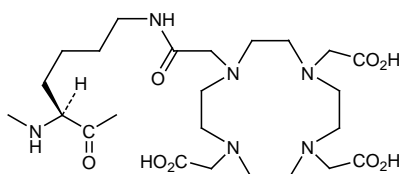
DIQLTQSPSS	LSASVGRVTV	MTCASASSVS	SSYLYWYQQK	PGKAPKLWIY	50'
STSNLASGVP	ARFSGSGSGT	DFTLTISLQ	PEDSASYFCH	QWNRYPYTPG	100'
GGTRLEIKRT	VAAPSVFIFP	PSDEQLKSGT	ASVCLLNNF	YPREAKVQWK	150'
VDNALQSGNS	QESVTEQDSK	DSTYLSSTL	TLSKADYEKH	KVYACEVTHQ	200'
GLSSPVTKSF	NRGEC				215'

## Disulfide bridges location

22-96	22"-96"	23'-89'	23"-89"	135'-195'	135"-195"	146-202	146"-202"
215'-222	215"-222"	228-228"	231-231"	263-323	263"-323"	369-427	369"-427"

## Modified residues

Substitution ratio of 4 to 7 lysyl (K)  
out of the 90 of the antibody molecule

N<sup>6</sup>-(tetraacetan)-L-lysyl

Glycosylation sites (N)

Asn-299 Asn-299'

MOLECULAR FORMULA  $C_{6496}H_{9952}N_{1716}O_{2014}S_{44} \cdot (C_{16}H_{26}N_4O_7)_n$ 

MOLECULAR WEIGHT 145.7 kDa (antibody)

TRADEMARK Clivatucyn

SPONSOR Immunomedics, Inc.

CODE DESIGNATIONS IMMU-107, hPAM4, IgG-DOTA

CAS REGISTRY NUMBER 1462876-11-4

UNII 1D1F7UG35J

gbk