

STATEMENT ON A NONPROPRIETARY NAME ADOPTED BY THE USAN COUNCIL

USAN (GH-100)

GEMIBOTULINUMTOXIN A

PRONUNCIATION

jem" i bot" ue lye' num tox" in ay"

THERAPEUTIC CLAIM

Treatment of major depressive disorder and for the prevention of post-operative atrial fibrillation

CHEMICAL NAME

Protein NTNH (nontoxic-nonhemagglutinin)(Clostridium botulinum A strain PM-12759 Hall-A), compd. with botulin A (Clostridium botulinum A strain PM-12759 Hall-A heavy chain)(454→430')-disulfide with botulin A (Clostridium botulinum A strain PM-12759 Hall-A light chain), compd. with hemagglutinin HA17 (Clostridium botulinum A strain PM-12759 Hall-A), compd. with hemagglutinin HA34 (Clostridium botulinum A strain PM-12759 Hall-A), compd. with hemagglutinin HA23 (Clostridium botulinum A strain PM-12759 Hall-A), compd. with hemagglutinin HA48 (Clostridium botulinum A strain PM-12759 Hall-A)

STRUCTURAL FORMULA

150 kDa BoNT/A neurotoxin component

Light chain (Residues 1 – 438, theoretical average mass 50156.20 Da)

Heavy chain (Residues 449 – 1296, theoretical average mass 98152.57 Da)

Nicking site (Residues 439 – 448)

MPFVNKQFNY KDPVNGVDIA YIKIPNAGQM QPVKAFKIHN KIWVIPERDT 50
FTNPEEGDLN PPPEAKQVPV SYDSTYLST DNEKDNYLKG VTKLFERIYS 100
TDLGRMLLTS IVRGIPFWGG STIDTELKVI DTNCINVIQP DGSYRSEELN 150
LVIIGPSADI IQFECKSFGH EVLNLTRNGY GSTQYIRFSP DFTFGFEESL 200
EVDTNPLLGA GK FATDPAVT LAHELHAGH RLYGIAINPN RVFKVNTNAY 250
YEMSGLEVSF EELRTFGGHD AKFIDSLQEN EFRLYYYNKF KDIASLTNKA 300
KSI VGTASL QYMNKVFKEK YLLSEDTSGK FSVDKLKFDD LYKMLTEIYT 350
EDNFVKFFKV LNRKTYLNFD KAVFKINIVP KVNYYIYDGF NLRNTNLAAN 400
FNGQNTTEINN MNFTKLNFT GLFEFYKLLC VRGIITSKTK SLDKGYNKAL 450
NDLCIKVNNW DLFFSPSEDN FTNDLNKGEE ITSDTNIEAA EENISLDLIQ 500
QYYLTFNFDN EPENISIENL SSDIIGQLEL MPNIERFPNG KKYELDKYTM 550
FHYLRAQEFH HGKSRIALTN SVNEALLNPS RVYTFSSDY VKKVNKATEA 600
AMFLGWVEQL VYDFTDETSE VSTTDKIADI TIIIPYIGPA LNIGNMLYKD 650
DFVGALIFSG AVILLEFIPE IAIPVLGTFA LVSYIANKVL TVQTIDNALS 700
KRNEKWDEVY KYIVTNWLAK VNTQIDLIRK KMKEALENQA EATKAIINYQ 750
YNQYTEEEKN NINFNIDDL SSKNESINKA MININKFLNQ CSVSYLMNSM 800
IPYGVKRLLED FDASLKDALL KYIYDNRGTL IGQVDRKDK VNNTLSTDIP 850
FQLSKYVDNQ RLLSTFTEYI KNIINTSILN LRYESNHLID LSRYSKINI 900
GSKVNFDPID KNQIQLFNLE SSKIEVILKN AIVYNSMYEN FSTSFWIRIP 950
KYFNSISLNN EYTIINCMEN NSGWKVS LNY GEI IWTLQDT QEIKQRVVF 1000

YSQMINISDY	INRWIFVTIT	NNRLNNSKIY	INGRLIDQKP	ISNLGNIHAS	1050
NNIMFKLDGC	RDTHRYIWIK	YFNLFDKELN	EKEIKDLYDN	QSN SGILKDF	1100
WGDYLYQYDKP	YYMLNLYDPN	KYVDVNNVGI	RGYMYLKGPR	GSVMTTNIYL	1150
NSSLYRGTKF	IIKKYASGNK	DNIVRNNDRV	YINVVVKNKE	YRLATNASQA	1200
GVEKILSALE	IPDVGNLSQV	VVMKSKNDQG	ITNKCKMNLQ	DNNGNDIGFI	1250
GFHQFNNAIAK	LVASNWYNRQ	IERSSRTLGC	SWEFIPVDDG	WGERPL	1296

NTNH

1193 residues, theoretical average mass 138093.05 Da

MNINDNLSIN	SPVDNKNVVV	VRARKTDTVF	KAFKVAPNIW	VAPERYYGES	50
LSIDEEYKVD	GGIYDSNFLS	QDSEKDKFLQ	AIITLLKRIN	STNAGEKLLS	100
LISTAIPFPY	GYIGGGYYAP	NMITFGSAPK	SNKKLNSLIS	STIPFPYAGY	150
RETYLSSSED	NKSFYASNIV	IFGPGANIVE	NNTVIFYKKED	AENMGTMTE	200
IWFQPFITYK	YDEFYIDPAI	ELIKCLIKSL	YFLYGIKPSD	DLVIPYRLRS	250
ELENIYSQL	NIVDLLVSGG	IDPKFINTDP	YWFTDNYFSN	AKKVFEHRN	300
IYETEIEGNN	AIGNDIKRLR	KQKFRININD	IWELNLNYFS	KEFSIMMPDR	350
FNNALKHFYR	KQYKIDYPE	NYSINGFVNG	QINAQLSLSD	RNQDIINKPE	400
EIINLLNGNN	VSLMRSNIYG	DGLKSTVDDF	YSNYKIPYNR	AYEYHFNNNSN	450
DSSLDNVNIG	VIDNIPEIID	VNPYKENC DK	FSPVQKITST	REINTNIPWP	500
INYLQAQNTN	NEKFSLSDDF	VEVVSSKDKS	LVYSFLSNVM	FYLD SIKDNS	550
PIDTDKYYL	WLREIFRNYS	FDITATQEIN	TNCGINKVVT	WFGKALNILN	600
TDSFVVEEFQ	NLGAI SLINK	KENLSMPIIE	SYEIPNDMLG	LPLNDLNEKL	650
FNIYSKNTAY	FKKIYYNFLD	QWWTQYYSQY	FDLICMAKRS	VLAQETLIK R	700
IIQKLSYLI	GNSNISSDNL	ALMNLTTTNT	LRDISNESQI	AMNNVDSFLN	750
NAAICVFESN	IYPKFISFME	QCINNINIKT	KEFIQKCTNI	NEDEKLQLIN	800
QNVFNSLDFE	FLNIQNMKSL	FSSETALLIK	EETWPYELVL	YAFKEPGNNV	850
IGDASGKNTS	IEYSKDIGLV	YGINS DALYL	NGSNQ SIFS	NDF FENGLTN	900
SFSIYFWLRN	LGKDTIKSKL	IGSKEDNCGW	EIYFQDTGLV	FMNIDSNGNE	950
KNIYLSDVSN	NSWHYITISV	DRLKEQLLIF	IDDNLVANES	IKEILNIYSS	1000
NIISLSENN	PSYIEGLTIL	NKPTTSQEV L	SNYFEVLNNS	YIRDSNEERL	1050
EYNKTYQLYN	YVFSKPIECE	VKQNNNIYLT	INNNTNNLNLQ	ASKFKLLSIN	1100
PNKQYVQKLD	EVIISVLDNM	EKYIDISEDN	RLQLIDNKNN	AKKMIISNDI	1150
FISNCLTLSY	NGKYICLSMK	DENHNW MICN	NDMSKYLYLW	SFK	1193

HA70

HA23 (HA3a) (Residues 16 – 202, theoretical average mass 21586.46 Da)

HA48 (HA3b) (Residues 203 – 626, theoretical average mass 48029.54 Da)

MNSSIKKIYN	DIQEKVINYS	DTIDLADGNY	VVRRGDWIL	SRQNQILGGS	50
VISNGSTGIV	GDLRVNDNAI	PYYYPTPSFN	EEYIKNNIQT	VFTNFTEANQ	100
IPIGF EFSKT	APSNKNLYMY	LQYTYIRYEI	IKVLQHEIIE	RAVLYVPSLG	150
YVKSIEFNP G	EKINKDFYFL	TNDKCILNEQ	FLYKKILETT	KNIPTNNIFN	200
SKVSSTQRVL	PYSNGLYVIN	KGDGYIRTND	KDLIGTLLIE	AGSSGSIIQP	250
RLRNTTRPLF	TTSNDTKFSQ	QYTEERLKDA	FNVQLFNTST	SLFKFVEEAP	300
SDKNICIKAY	NTYEKYE LID	YQNGSIVNKA	EYYLPSLGYC	EVTNAPSPES	350
EVVKMQVAED	GFIQNGPEEE	IVVGVIDPSE	NIQEINTAIS	DNYTYNIPGI	400
VNNNPFYILF	TVNTTGIYKI	NAQNNLPSLK	IYEAIGSGNR	NFQSGNLCDD	450
DIKAINYITG	FDSPNAKSYL	VVLLNKDKNY	YIRVPQTSSN	IENQIQFKRE	500
EGDLRNL MNS	SVNIIDNLNS	TGAHY YTRQS	PDVHDYISYE	FTIPGNFNNK	550

DTSNIRLYTS YNQIGTLFR VTETIDGYNL INIQQNLHLL NNTNSIRLLN 600
GAIYILKVEV TELNNYNIRL HIDITN 626

HA34 (HA1)

293 residues, theoretical average mass 33872.75 Da

MEHYSVIQNS LNDKIVTISC KADTNLFFYQ VAGNVSLFQQ TRNYLERWRL 50
IYDSNKAAYK IKSMDIHNTN LVLTWNAPTH NISTQQDSNA DNQYWLLLKD 100
IGNNSFIIAS YKNPNLVLYA DTVARNLKLS TLMNSNYIKF IIEDYIISDL 150
NNFTCKISPI LDLNKVVQVQV DVTNLNVNLY TWDYGRNQKW TIRYNEEKAA 200
YQFFNTILSN GVLTWIFSNG NTVRVSSSD QNNDAYWLI NPVSDTDETY 250
TITNLRDTTK ALDLYGGQTA NGTAIQVFNY HGDDNQKWNI RNP 293

HA17 (HA2)

146 residues, theoretical average mass 17034.34 Da

MSVERTFLPN GNYNIKSIFS GSLYLNPVSK SLTFSNESSA NNQKWNVEYM 50
AENRCFKISN VAEPNKYLSY DNFGFISLDS LSNRCYWFPI KIAVNTYIML 100
SLNKVNELDY AWDIYDTNEN ILSQPLLLLP NFDIYNSNQM FKLEKI 146

TRADEMARK	None as yet
SPONSOR	Allergan
CODE DESIGNATIONS	AGN-151607; PM-12759
<u>CAS</u> REGISTRY NUMBER	1883793-14-3
UNII	NS8KR4RV8W

SCS