

STATEMENT ON A NONPROPRIETARY NAME ADOPTED BY THE USAN COUNCIL

USAN (EF-102)	PRABOTULINUMTOXIN A
PRONUNCIATION	pra bot" ue lye' num tox" in ay"
THERAPEUTIC CLAIM	Treatment of glabellar lines
CHEMICAL NAME	
Botulin A	
STRUCTURAL FORMULA	
see page 2	
MOLECULAR FORMULA	C <sub>6760</sub> H <sub>10447</sub> N <sub>1743</sub> O <sub>2010</sub> S <sub>32</sub>
MOLECULAR WEIGHT	149,323 Da
TRADEMARK	None as yet
SPONSOR	Daewoong Pharmaceutical Co., Ltd.
CODE DESIGNATION	DWP450
<u>CAS</u> REGISTRY NUMBER	93384-43-1
UNII	E211KPY694
SCS	

Sequence

Nontoxic-nonhemagglutinin subunit (NTNH)

MNINDNLSIN	SPVDNKNVVV	VRARKTDTVF	KAFKVAPNIW	VAPERYYGES	50
LSIDEEYKVD	GGIYDSNFLS	QDSEKDKFLQ	AIITLLKRIN	STNAGEKLLS	100
LISTAIPFPY	GYIGGGYYAP	NLV!ITFGSAPK	SNKKLNSLIS	STIPFPYAGY	150
RETNYLSSSED	NKSFYASNIV	IFGPGANIVE	NNTVIFYKKED	AENGMGTMTTE	200
IWFQPFPTYK	YDEFYIDPAI	ELIKCLIKSL	YFLYGIKPSD	DLVIPYRLRS	250
ELENI EYSQL	NIVDLLVSGG	IDPKFINTDP	YWF TDNYFSN	AKKVFEDHRN	300
IYETEIEGNN	AIGNDIKLR	KQKFRININD	IWELNLNYFS	KEFSIMMPDR	350
FNNALKHFYR	KQYYKIDYPE	NYSINGFVNG	QINAQLSLSD	RNQDIINKPE	400
EIINI ,LNGNN	VSLMRSNIYG	DGLKSTVDDF	YSNYKIPYNR	AYEYHFNNNSN	450
DSSLDNVNIG	VIDNIPEIID	VNPYKENC DK	FSPVQKITST	REINTNIPWP	500
INYLQAQNTN	NEKFSLS SDF	VEVVS SKDKS	LVYSFLSNVM	FYLD SIKDNS	550
PIDTDK KYL	WLREIFRNYS	FDITATQEIN	TNCGINKVVT	WFGKALNILN	600
TSDSFVEEFQ	NLGAISLINK	KENLSMPIIE	SYEIPNDMLG	LPLNDLNEKL	650
FNIYSKNTAY	FKKIYYNFLD	QWWTQYYSQY	FDLICMAKRS	VLAQETLIK R	700
IIQKKLSYLI	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	L GKDTIKSKL	IGSKEDNCGW	EIYFQDTGLV	FNMIDSNGNE	950
KNIYLSDVSN	NSWHYITISV	DRLKEQLLIF	IDDNLVANES	IKEILNIYSS	1000
NIISLLSENN	PSYIEGLTIL	NKPTTSQEVL	SNYFEVLNNS	YIRDSNEERL	1050
EYNKTYQLYN	YVFS DKPICE	VKQNNNIYLT	INNTNNLNLQ	ASKFKLLSIN	1100
PNKQYVQKLD	EVII SVLDNM	EKYIDISEDN	RLQLIDNKNN	AKKMIISNDI	1150
FISNCLTLSY	NGKYICLSMK	DENHNWMICN	NDSKYL YLW	SFK	1193

Neurotoxin heavy chain

ALNDLCIKVN	NWDLFFSPSE	DNFTNDLNKG	EEITSDTNIE	AAEENISLDL	50
IQQYYLTFNF	DNEPENISIE	NLSSDIIGQL	ELMPNIERFP	NGKKYELDKY	100
TMFHYLRAQE	FEHGKSRIAL	TNSVNEALLN	PSRVYTFSS	DYVKKVNKAT	150
EAAMFLGWVE	QLVYDF TDET	SEVSTTDKIP	DITIIIPYIG	PALNIGNMLY	200
KDDFVGALIF	SGAVILLEFI	PEIAIPVLGT	FALVSYIANK	VLTVQTIDNA	250
LSKRNEKWDE	VYKYIVTNWL	AKVNTQIDLI	RKKMKEALEN	QAEATKAIIN	300
YQYNQYTEEE	KNNINFNIDD	LSSKLNESIN	KAMININKFL	NQCSVSYLMN	350
SMIPYGVKRL	EDFDASLKDA	LLKYIYDNRG	TLIGQVDRK	DKVNNTLSTD	400
IPFQLSKYVD	NQRLLSTFTE	YIKNIINTSI	LNLRYESNHL	IDLSRYASKI	450
NIGSKVNFDP	IDKNQIQLFN	LESSKIEVIL	KNAIVYNSMY	ENFSTSFWIR	500
IPKYFNSISL	NNEYTIINCM	ENNSGWKVSL	NYGEIIWTLQ	DTQEIKQRVV	550
FKYSQMINIS	DYINRWIFVT	ITNRLNNSK	IYINGRLIDQ	KPISNLGNIH	600
ASNNIMFKLD	GCRDTHRYIW	IKYFNLFDKE	LNEKEIKDLY	DNQSN S GILK	650
DFWGDY LQYD	KPY YMLNLYD	PNKYVDVNNV	GIRGYMYLKG	PRGSVMTTNI	700
YLNSSLYRGT	KFI IKKYASG	NKDNIVRNND	RVYINVVVKN	KEYRLATNAS	750
QAGVEKILSA	LEIPDVGNLS	QVVVt"!KSKND	QGITNKCKMN	LQDNNGNDIG	800
FIGFHQFNNI	AKLVASNWYN	RQIERSSRTL	GCSWEFIPVD	DGWERPL	848

### Neurotoxin light chain

PFVNKQFNYK	DPVNGVDIAY	IKIPNAGQMQ	PVKAFKIHNK	IWVIPERDTF	50
TNPEEGDLNP	PPEAKQVPVS	YYDSTYLSTD	NEKDNYLKGV	TKLFERIYST	100
DLGRMLLTSI	VRGIPFWGGS	TIDTELKVID	TNCINVIQPD	GSYRSEELNL	150
VIIGPSADII	QFECKSFGHE	VLNLTRNGYG	STQYIRFSPD	FTFGFEESLE	200
VDTNPLLGAG	KFATDPAVTL	AHELIHAGHR	LYGIAINPNR	VFKVNTNAYY	250
EMSGLEVSFE	ELRTFGGHDA	KFIDSLQENE	FRLYYYNKFK	DIASLTKAK	300
SIVGTTASLQ	YMKNVFKEKY	LLSEDTSGKF	SVDKLFKFDL	YKMLTEIYTE	350
DNFVKFFKVL	NRKTYLNFDK	AVFKINIVPK	VNYTIYDGFN	LRNTNLAANF	400
NGQNTTEINM	NFTKLKNFTG	LFEFYKLLCV	RGIITSKTKS	LDKGYNK	447

### HA (heamagglutinin)50

VSSTQRVLPY	SNGLYVINKG	DGYIRTNDKD	LIGTLLEIAG	SSGSIIQPRL	50
RNTTRPLFTT	SNDTKFSQQY	TEERLKDAFN	VQLFNTSTSL	FKFVEEAPSD	100
KNICIKAYNT	YEKYELIDYQ	NGSIVNKAAY	YLPYSLGYCEV	TNAPSPESEV	150
VKMQVAEDGF	IQNGPEEEIV	VGVIDPSENI	QEINTAISDN	YTYNIPGIVN	200
NNPFYILFTV	NTTGIYKINA	QNNLPSLKIY	EAIGSGNRNF	QSGNLCDDDI	250
KAINYITGFD	SPNAKSYLVV	LLNKDKNYII	RVPQTSSNIE	NQIQFKREEG	300
DLRNLMNSSV	NIIDNLNSTG	AHYTTRQSPD	VHDYISYEFT	IPGNFNKDT	350
SNIRLYTSYN	QGIGTLFRVT	ETIDGYNLIN	IQQNLHLLNN	TNSIRLLNGA	400
IYILKVEVTE	LNNYNIRLHI	DITN			424

### HA33

MEHYSVIQNS	LNDKIVTISC	KADTNLFFYQ	VAGNVSLFQQ	TRNYLERWRL	50
IYDSNKAAYK	IKSMDIHNTN	LVLWTWAPTH	NISTQQDSNA	DNQYWLLLLKD	100
IGNNSFIIAS	YKNPNLVLYA	DTVARNLKLS	TLNNSNYIKF	IIEDYIISDL	150
NNFTCKISPI	LDLNVVQQV	DVTNLNVNLY	TWDYGRNQKW	TIRYNEEKAA	200
YQFFNTILSN	GVLTWIFSNG	NTVRVSSSND	QNNDAQYWLI	NPVSDTDETY	250
TITNLRDFTK	ALDLYGGQTA	NGTAIQVFNY	HGDDNQKWN	RNP	293

### HA20

VINYSDTIDL	ADGNYVVRG	DGWILSRQNG	ILGGSVISNG	STGIVGDLRV	50
NDNAIPYYYP	TPSFNEEYIK	NNIQTVFTNF	TEANQIPIGF	EFKSTAPSNK	100
NLYMYLQYTY	IRYEIIKVLQ	HEIIERAVLY	VPSLGYVKSI	EFNPGEKINK	150
DFYFLTNDKC	ILNEQFLYKK	ILETTKNIPT	NNIFNSK		187

### HA17

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

### Disulfide bridges (if any)

| Cys 430-Cys 454 | Cys 1235-Cys 1280