(A)

```
CTCTATATAACAAGCGCCAGTAATCCGGTTGGGATCACAGCCCAGTCATCTCAGACATCAACCACACTAGTTTTCCATTG 80

                                                    N-terminal sequencing
AAAATTGAAATCTCTCTAACTTGTGGTGTTAACGCAAAGAAACATGGTTGTCTCCAACAGACTTGTCAGCGGTGAAAGTT 160
                                                  M  V  V  S  N  R  L  V  S  G  E  S
                                                                                 Pep-1
TGCATCGTGGACAACATATAATCTCGTCTGATCAGCATTTTATGTTGGTGCATCAATATGATGGGAATGTGGTCCTTTAC 240
L  H  R  G  Q  H  I  I  S  S  D  Q  H  F  M  L  V  H  Q  Y  D  G  N  V  V  L  Y

GATGTTGCCGGGAGTGGCTCAGGGAAACCTTTATGGAGCACGAACACATATGGTTCTCACACCACTGTCTTTAAAATGCA 320
 D  V  A  G  S  G  S  G  K  P  L  W  S  T  N  T  Y  G  S  H  T  T  V  F  K  M  Q

AGAGGATTCAAATCTCGTGCTTTATGCCACTGGTGGGAAACCGATATGGGCATCTGACACCCACGGTTCCGGTGGCAGGT 400
  E  D  S  N  L  V  L  Y  A  T  G  G  K  P  I  W  A  S  D  T  H  G  S  G  G  R
                  Pep-2                                    Pep-3
TCCTGGAGATGCAAAATGATGGAAATTTGGTTGTGTACACCGACGTAGGTAAACCGAAATGGGCCTCGGACACCCATCAA 480
F  L  E  M  Q  N  D  G  N  L  V  V  Y  T  D  V  G  K  P  K  W  A  S  D  T  H  Q
                  Pep-4                                                  Pep-5
GGGATTGCACCTCGCAGTGAAATCTCGGTGAATCAAGTCCTTCGCATACGCGAAGGGCTGCATTCTGCGAATAAGAGGAA 560
 G  I  A  P  R  S  E  I  S  V  N  Q  V  L  R  I  R  E  G  L  H  S  A  N  K  R  N
                        Pep-6
CGAGTTGATCTTGCAGAATGACGGAAATTTGGTTCTTTCTAAGAATGGAAGCACAGCCTGGAGTTCTGGAACTGCTGGTA 640
  E  L  I  L  Q  N  D  G  N  L  V  L  S  K  N  G  S  T  A  W  S  S  G  T  A  G
                  Pep-7
CGGGGGCTAATGTTCTGGTCCTACAGATTGATGGCAACTTGGTGCTTTACAACGATACCAAGAGCGTCTGGGCTTCTGGT 720
T  G  A  N  V  L  V  L  Q  I  D  G  N  L  V  L  Y  N  D  T  K  S  V  W  A  S  G
                                                                        Pep-8
TCGATGAATAAGGGCGGTCGCACCGCGGTGATGCAGGACGACGGCAACTTTGTGCTTTACGCGGAGGGAGGAAAACCCGT 800
 S  M  N  K  G  G  R  T  A  V  M  Q  D  D  G  N  F  V  L  Y  A  E  G  G  K  P  V

CTGGGCTACCAATACGTAATACCGCTTCGATGCCGTTCCAGATATGTTCATTCACTAATGAAAGTGATGGGATAATCGAT 880
  W  A  T  N  T  *

TTACCACGCATATGTAGAAGTGCTTAAAAGAGCTTTCCCTAGAGTTGCAACTTGGCGTATGTGAGGATGCACGTACAGCA 960

TACCATAATATATGGTATACGTGCATCCTCACGGCAATACTACAGTATTGCTGTGTATGCGTAAAGCTTCCAGTAAAAAA 1040

ATCATTGAATTAGCAAAAAAAAAAAAAAAAAAA                                                  1073
```

(B)

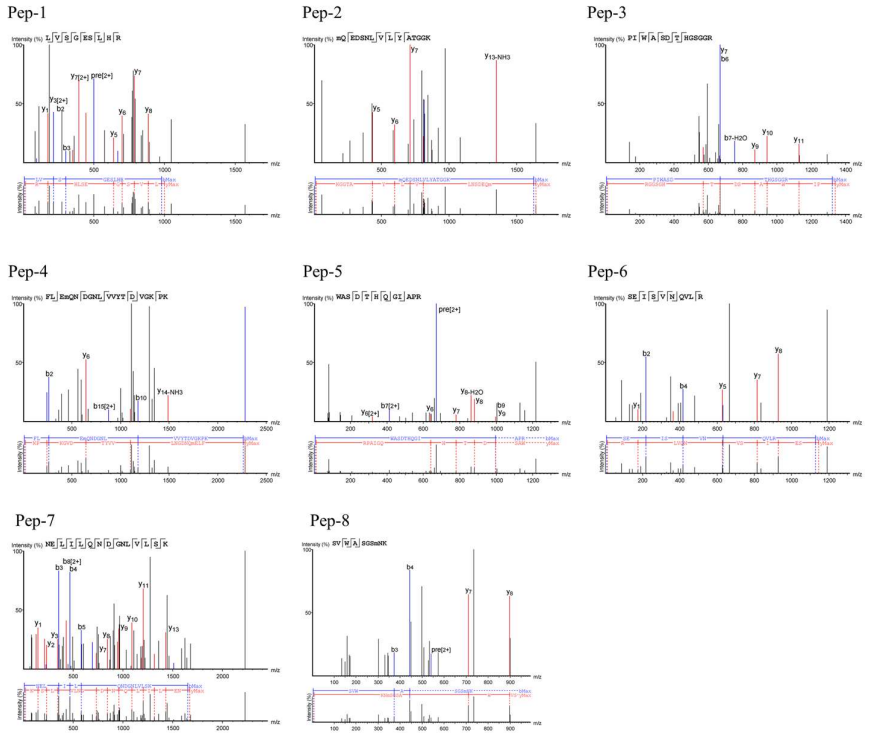

Figure 1. cDNA and amino acid sequence of *Glateloupia chianggi* lectin (GCL). (A) Deduced GCL cDNA and amino acid sequences. N-terminal sequence information is boxed. The peptide sequences from LC-MS/MS are underlined. (B) Peptide sequences (Pep-1-8).

(A)

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D1 (28 - 64)   - Q Y D G N V V L Y D V A G S G S G K P L W S T N T Y - G S H T T V F K
D2 (65 – 95)   M Q E D S N L V L Y - - - - A T G G K P I W A S D T H - G S G G R F L E
D3 (96 – 124)  M Q N D G N L V V Y - - - - T D V G K P K W A S D T H Q G I A P R - - -
D4 (150 – 179) M Q N D G N L V L - - - - - S K N G S T A W S S G T A - G T G A N V L V
D5 (180 – 209) L Q I D G N L V L Y - - - - - N D T K S V W A S G S M N K G G R T A V -
D6 (210 – 231) M Q D D G N F V L Y - - - - A E G G K P V W A T N T - - - - - - - - - -
```

(B)

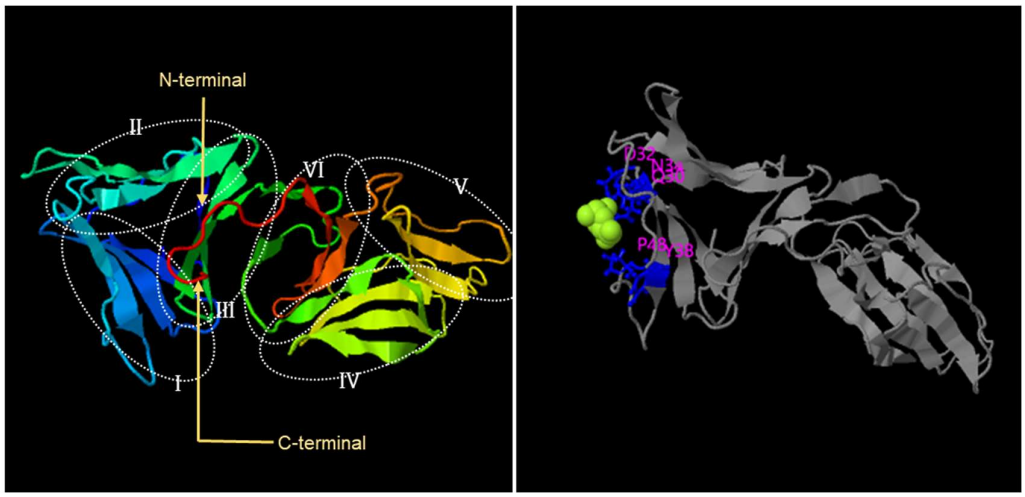

Figure 2. Tandem repeat structure of *Grateloupia chianggi* lectin. (A) Multiple alignment of tandem repeats. Black boxes indicate identical amino acids. (B) Schematic structural diagram of repeat domains (left side, I ~ IV), and ligand binding site (right side).

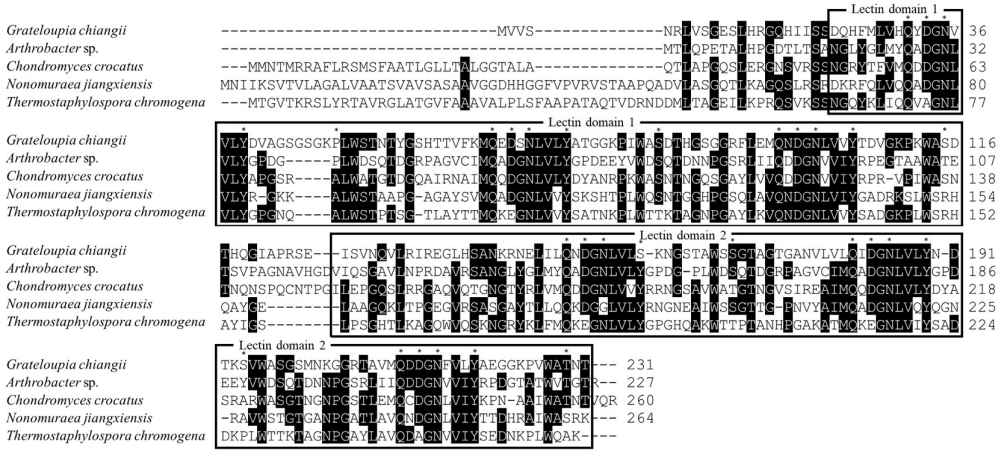

Figure 3. Multiple sequence alignment of GCL with related proteins from bacteria. The sequence alignment was generated by ClustalW alignment tool. Identical amino acids of the sequences are shaded in black. Predicted lectin domains are shown with boxes. The sequences were obtained from NCBI databank. *Grateloupia changii* (this study), *Arthrobacter* sp. (WP024366858), *Chondromyces crocatus* (AKT42434), *Nonomuraea jiangxiensis* (SDL12571), *Thermostaphylospora chromogena* (SDQ57287). Asterisks indicate ligand binding sites.

Table 1. Glycan microarray of native *Grateloupia chianggi* lectin (GCL), with binding signals normalized using a program provided by RayBioTech.

Substrate	Glycan structure	Normalized RFU	
		Mean	SD
POS1	–	5,687	0
NEG	-	599	174
G0001	β-Glc-Sp	2,273	545
G0002	β-Gal-Sp	2,165	237
G0003	α-Man-Sp	2,093	295
G0004	α-Fuc-Sp	353	32
G0005	α-Rha-Sp	516	157
G0006	β-GlcNAc-Sp	1,104	134
G0007	β-GalNAc-Sp	820	60
G0008	Tobramycin	972	160
G0009	Gal-β-1,3-GlcNAc-β-Sp	397	37
G0010	Gal-α-1,3-Gal-β-1,3-GlcNAc-β-Sp	287	16
G0011	Neu5Ac-α-2,3-Gal-β-1,3-GlcNAc-β-Sp	571	34
G0012	Neu5Ac-α-2,6-Gal-β-1,3-GlcNAc-β-Sp	562	39
G0013	Neu5Gc-α-2,3-Gal-β-1,3-GlcNAc-β-Sp	478	108
G0014	Neu5Gc-α-2,6-Gal-β-1,3-GlcNAc-β-Sp	533	55
G0015	Gal-β-1,3-(Fuc-α-1,4)-GlcNAc-β-[Lewis A]-Sp	492	81
G0016	Gal-β-1,4-Glc-β-Sp	1,260	127
G0017	Gal-α-1,3-Gal-β-1,4-Glc-β-Sp	276	52
G0018	Gal-α-1,4-Gal-β-1,4-Glc-β-Sp	1,124	47
G0019	GlcNAc-β-1,3-Gal-β-1,4-Glc-β-Sp	546	27
G0020	GalNAc-β-1,3-Gal-β-1,4-Glc-β-Sp	1,092	92
G0021	Neu5Ac-α-2,3-Gal-β-1,4-Glc-β-Sp	315	45
G0022	Neu5Ac-α-2,6-Gal-β-1,4-Glc-β-Sp	606	48
G0023	Neu5Gc-α-2,3-Gal-β-1,4-Glc-β-Sp	579	74
G0024	Neu5Ac-α-2,6-Gal-β-1,4-Glc-β-Sp	665	139
G0025	Gal-β-1,4-(Fuc-α-1,3)-Glc-β-Sp	365	15
G0026	GalNAc-β-1,3-Gal-α-1,4-Gal-β-1,4-Glc-β-Sp	186	22
G0027	GlcNAc-β-1,6-GlcNAc-β-Sp	396	41
G0028	4-P-GlcNAc-b-1,4-Man-b-Sp	464	77
G0029	Glc-α-1,2-Gal-α-1,3-Glc-α-Sp	563	63
G0030	Gal-β-1,3-GalNAc-α-Sp	370	52
G0031	Gal-β-1,4-GlcNAc-β-Sp	735	59
G0032	Gal-β-1,4-(Fuc-α-1,3)-GlcNAc-β-[Lewis X]–Sp	509	64
G0033	Neu5Ac-α-2,3-Gal-β-1,4-(Fuc-α-1,3)-GlcNAc-β-[sialyl Lewis X]-Sp	400	123
G0034	Neu5Ac-α-2,3-Gal-β-1,3-(Fuc-α-1,4)-GlcNAc-β-[sialyl Lewis A]-Sp	234	21
G0035	Neu5Gc-α-2,3-Gal-β-1,3-(Fuc-α-1,4)-GlcNAc-β-[sialyl Lewis A]-Sp	216	52
G0036	Gal-α-1,4-Gal-β-1,3-GlcNAc-β-Sp	355	32
G0037	Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-β-[LNnT]-Sp	311	86

G0038	GlcA-β-1,4-GlcNAc-α-1,4-GlcA-β-Sp	321	37
G0039	GlcNAc-β-1,6-(Gal-β-1,3)-GalNAc-α-O-Ser-Sp4	39	13
G0040	Neu5Ac-α-2,3Gal-β-1,4-(6S)GlcNAc-β-Sp	397	32
G0041	GalNAc-β-1,4-GlcNAc-β-Sp2	458	55
G0042	Neu5Ac-α-2,8-Neu5Ac-α-2,3-Gal β-1,4-Glc-β-Sp	161	34
G0043	Neu5Gc-α-2,8-Neu5Ac-α-2,3-Gal-β-1,4-Glc-β-Sp	234	28
G0044	GalNAc-α-1,3-(Fuc-α-1,2)-Gal-β-1,4-Glc-β-[blood A antigen tetrose]-Sp1	123	19
G0045	GlcNAc-β-1,2-Man-α-Sp	171	6
G0046	Neu5Ac-α-2,3-Gal-β-Sp1	320	53
G0047	Gal-β-1,3-GalNAc-β-1,3-Gal-β-Sp1	119	28
G0048	Glc-α-1,2-Gal-α-Sp	1,173	111
G0049	Gal-β-1,4-(Fuc-α-1,3)-GlcNAc-β-1,3-Gal-β-Sp1	342	36
G0050	Neu5Ac-α-2,3-Gal-β-1,4-(Fuc-α-1,3)-Glc-β-[3-sialyl-3-fucosyllactose/F-SL]-Sp1	223	31
G0051	GlcNAc-β-1,4-GlcNAc-β-Sp1	460	74
G0052	β-D-GlcA-Sp	988	282
G0053	Gal-β-1,4-(6S)GlNAc-β-Sp	431	86
G0054	GlcNAc-α-1,3-(Glc-α-1,2-Glc-α-1,2)-Gal-α-1,3-Glc-α-Sp	208	43
G0055	Gal-β-1,3-GalNAc-β-1,4-(Neu5Gc-α-2,3)-Gal-β-1,4-Glc-β-Sp1	222	14
G0056	Sisomicin sulfate	1,583	178
G0057	GalNAc-α-1,3-(Fuc-α-1,2)-Gal-β-[blood A antigen trisaccharide]-Sp1	468	47
G0058	Fuc-α-1,2-Gal-β-1,4-GlcNAc-β-[blood H antigen trisaccharide]-Sp1	337	25
G0059	Gal-α-1,3-(Fuc-α-1,2)-Gal-β-[blood B antigen trisaccharide]-Sp1	359	23
G0060	Fuc-α-1,2-Gal-β-1,3-GlcNAc-β-1,3-Gal-β-1,4-Glc-β [LNFP I]-Sp1	737	83
G0061	Fuc-α-1,2-Gal-β-1,4-Glc-β-[blood H antigen trisaccharide]-Sp1	313	39
G0062	Gal-α-1,3-(Fuc-α-1,2)-Gal-β-1,4-Glc-β-[blood B antigen tetrasaccharide]-Sp1	213	15
G0063	(Fuc-α-1,2)-Gal-β-1,4-(Fuc-α-1,3)-GlcNAc-β-[Lewis Y]-Sp1	300	21
G0064	(Fuc-α-1,2)-Gal-β-1,3-(Fuc-α-1,4)-GlcNAc-β-[Lewis B]-Sp1	167	24
G0065	Gal-β-1,3-(Fuc-α-1,4)-GlcNAc-β-1,3-Gal-β-1,4-(Fuc-α-1,4)-Glc-β-[Lewis A]-Sp1	194	23
G0066	Gal-β-1,3-GalNAc-β-Sp1	148	26
G0067	Gal-β-1,3-(Neu5Ac-α-2,6)-GalNAc-β-Sp	355	36
G0068	Neu5Ac-α-2,6-Gal-β-1,3-GalNAc-β-Sp	468	25
G0069	Neu5Ac-α-2,6-Gal-β-1,3-(Neu5Ac-α-2,6)-GalNAc-β-Sp	423	46
G0070	Neu5Ac-α-2,3-Gal-β-1,3-(Neu5Ac-α-2,6)-GalNAc-β-Sp	294	29
G0071	Neu5Ac-α-2,6-(Neu5Ac-α-2,3)-Gal-β-1,3-GalNAc-β-Sp	422	30
G0072	GalNAc-β-1,4-(Neu5Ac-α-2,3)-Gal-β-1,4-Glc-β-[GM2]-Sp	421	39
G0073	GalNAc-β-1,4-(Neu5Ac-α-2,8-Neu5Ac-α-2,3)-Gal-β-1,4-Glc-β-[GD2]-Sp	35	6
G0074	Gal-α-1,4-Gal-β-1,4-GlcNAc-β-Sp1	324	22
G0075	β-D-Rha-Sp	617	27
G0076	Glc-α-1,4-Glc-β-Sp1	1,238	28
G0077	Glc-α-1,6-Glc-α-1,4-Glc-β-Sp1	664	69
G0078	Maltotriose-β-Sp1	854	10
G0079	Glc-α-1,6-Glc-α-1,6-Glc-β-Sp1	794	16

G0080	Maltotetraose-β-Sp1	2,577	352
G0081	GlcNAc-α-1,4-GlcA-β-1,4-GlcNAc-α1,4-GlcA-β-Sp	275	53
G0082	Maltohexaose-β-Sp1	7,524	1,977
G0083	Maltoheptaose-β-Sp1	8,132	1,811
G0084	Acarbose-β-Sp1	730	94
G0085	D-Pentamannuronic acid-β-Sp1	593	35
G0086	L-Pentaguluronic acid-β-Sp1	801	39
G0087	D-Cellose-β-Sp1	1,165	83
G0088	Gal-α-1,3-Gal-β-Sp1	1,048	169
G0089	β-1,4-Xylotetrose-Sp1	452	61
G0090	Chitin-trisaccharide-Sp1	368	64
G0091	KDN-α-2,8-Neu5Ac-α-2,3-Gal-β-1,4-Glc-β-Sp	127	25
G0092	Neu5Ac-α-2,8-Neu5Gc-α-2,3-Gal-β-1,4-Glc-β-Sp	242	40
G0093	Neu5Ac-α-2,8-Neu5Ac-α-2,8-Neu5Ac-α-2,3-Gal-β-1,4-Glc-β-Sp3	85	38
G0094	Neu5Ac-a-2,8-Neu5Ac-a-2,6-Gal-b-1,4-Glc-Sp5	25	10
G0095	Gal-β-1,3-GalNAc-β-1,4-(Neu5Ac-α-2,3)-Gal-β-1,4-Glc-β-Sp1	175	14
G0096	Gentamicin sulfate	349	144
G0097	Kanamycin sulfate	870	188
G0098	Geneticin disulfate salt (G418)	146	29
G0099	Neomycin trisulfate	907	95
G0100	SGP	285	20
N010	Man-α-1,6-(Man-α-1,3-)Man-α-1,6-(GlcNAc-β-1,2-Man-α-1,3-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	1,142	117
N011	Man-α-1,6-(Man-α-1,3-)Man-α-1,6-(Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	1,148	174
N012	Man-α-1,6-(Man-α-1,3-)Man-α-1,6-(Neu5Ac-α-2,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	944	206
N013	Man-α-1,6-(Man-α-1,3-)Man-α-1,6-(Neu5Ac-α-2,6-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	989	194
N014	Man-α-1,6-(Man-α-1,3-)Man-α-1,6-[Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,2-Man-α-1,3-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	1,129	151
N015	Man-α-1,6-(Man-α-1,3-)Man-α-1,6-[Neu5Ac-α-2,3-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,2- Man-α-1,3-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	562	61
N020	GlcNAc-β-1,2-Man-α-1,3-Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	528	69
N021	Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	456	79
N022	Neu5Ac-α-2,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	165	10
N023	Neu5Ac-α-2,6-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	201	13
N024	Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,2-Man-α-1,3-Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	259	24
N025	Neu5Ac-α-2,3-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,2-Man-α-1,3-Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	96	8
N026	Gal-α-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	342	45
N022G	Neu5Gc-α-2,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	122	7
N023G	Neu5Gc-α-2,6-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	238	34
N025G	Neu5Gc-α-2,3-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,2-Man-α-1,3-Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	100	8

N030	Man-α-1,6-(GlcNAc-β-1,2-Man-α-1,3-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	634	89
N210	GlcNAc-β-1,2-Man-α-1,6-[GlcNAc(3Ac)-β-1,2-Man-α-1,3-Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	425	82
N040	GlcNAc-β-1,2-Man-α-1,6-Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	123	9
N041	Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	217	32
N042	Neu5Ac-α-2,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	136	5
N043	Neu5Ac-α-2,6-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	148	10
N044	Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,2-Man-α-1,3-Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	174	18
N045	Neu5Ac-α-2,3-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,2-Man-α-1,3-Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	164	19
N050	GlcNAc-β-1,2-Man-α-1,6-(Man-α-1,3-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	286	5
N051	Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-(Man-α-1,3-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	205	17
N052	Neu5Ac-α-2,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-(Man-α-1,3-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	102	5
N053	Neu5Ac-α-2,6-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-(Man-α-1,3-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp	86	12
N054	Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,2-Man-α-1,6-(Man-α-1,3-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	128	11
N055	Neu5Ac-α-2,3-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,2-Man-α-1,6-(Man-α-1,3-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-Sp5	97	3
TE001	Neu5Ac-α-2,6-Gal-β-1,4-GlcNAc-Man-α-1,3-(Neu5Ac-α-2,6-Gal-β-1,4-GlcNAc-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	84	11
TE002	Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	263	48
TE003	Neu5Gc-α-2,6-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Neu5Gc-α-2,6-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	89	25
TE004	Neu5Ac-α-2,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Neu5Ac-α-2,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	37	21
TE005	Neu5Gc-α-2,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Neu5Gc-α-2,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	31	28
TE006	Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	15	5
TE007	Gal-α-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Gal-α-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	101	31
TE008	Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	6	4
TE009	Neu5Ac-α-2,8-Neu5Ac-α-2,6-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Neu5Ac-α-2,8-Neu5Ac-α-2,6-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	7	6
TE010	Neu5Gc-α-2,8-Neu5Ac-α-2,6-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Neu5Gc-α-2,8-Neu5Ac-α-2,6-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	8	2
TE011	Neu5Ac-α-2,8-Neu5Gc-α-2,6-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Neu5Ac-α-2,8-Neu5Gc-α-2,6-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	10	5
TE012	Neu5Gc-α-2,8-Neu5Gc-α-2,6-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Neu5Gc-α-2,8-Neu5Gc-α-2,6-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	85	24
TE013	Neu5Ac-α-2,8-Neu5Ac-α-2,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Neu5Ac-α-2,8-Neu5Ac-α-2,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	12	4
TE014	Neu5Gc-α-2,8-Neu5Ac-α-2,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Neu5Gc-α-2,8-Neu5Ac-α-2,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	4	3

TE015	Neu5Ac-α-2,8-Neu5Gc-α-2,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Neu5Ac-α-2,8-Neu5Gc-α-2,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	2	2
TE016	Neu5Gc-α-2,8-Neu5Gc-α-2,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Neu5Gc-α-2,8-Neu5Gc-α-2,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	11	4
TE017	Neu5Ac-α-2,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[Neu5Ac-α-2,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	5	2
TE018	Neu5Gc-α-2,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[Neu5Gc-α-2,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	5	2
TE019	Neu5Ac-α-2,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Neu5Ac-α-2,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	6	2
TE020	Neu5Gc-α-2,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Neu5Gc-α-2,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	5	4
TE021	Neu5Ac-α-2,6-Gal-β-1,4-GlcNAc-β-1,3-(Neu5AC-α-2,6-)Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-[Neu5Ac-α-2,6-Gal-β-1,4-GlcNAc-β-1,3-(Neu5AC-α-2,6-)Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	4	3
TE022	Neu5Gc-α-2,6-Gal-β-1,4-GlcNAc-β-1,3-(Neu5GC-α-2,6-)Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-[Neu5Gc-α-2,6-Gal-β-1,4-GlcNAc-β-1,3-(Neu5GC-α-2,6-)Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	4	5
TE023	Neu5Ac-α-2,3-Gal-β-1,4-GlcNAc-β-1,3-(Neu5AC-α-2,6-)Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-[Neu5Ac-α-2,3-Gal-β-1,4-GlcNAc-β-1,3-(Neu5AC-α-2,6-)Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	19	7
TE024	GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	211	44
TE025	Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	56	13
TE026	GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	94	20
TE027	Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	8	6
TE028	GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	46	20
TE029	Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	7	3
TE030	GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	32	19
TE031	Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	4	2
TE032	GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	104	35

TE033	Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	11	4
TE034	Neu5Ac-α-2,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[Neu5Ac-α-2,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	3	3
TE035	GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	15	7
TE036	Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	2	2
TE037	GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	7	5
TE038	Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	3	1
TE039	Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	4	5
TE040	GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	148	28
TE041	Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	8	3
TE042	Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	5	6
TE043	Gal-α-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Gal-α-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	18	3
TE044	Gal-α-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[Gal-α-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	3	2
TE045	Gal-α-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[Gal-α-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	4	3
TE046	Gal-α-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Gal-α-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	5	2
TE047	Gal-α-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[Gal-α-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	6	4
TE048	Gal-α-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[Gal-α-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	1	0
TE049	Gal-α-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,3-[Gal-α-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-	9	4

	β-1,3-Gal-β-1,4-(Fucα-1,3-)GlcNAc-β-1,2-Man-α-1,6-]Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn		
TE050	Gal-α-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,3-(Gal-α-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,2-Man-α-1,6-)Man-β-1,4-GlcNAc-β-1,4-GlcNAc-β-Asn	2	2
H0100	GlcNAc-β-1,3-(GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	212	9
H0101	Gal-β-1,4-GlcNAc-β-1,3-(Gal-β-1,4-GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	112	14
H0103	Neu5Gc-α-2,6-Gal-β-1,4-GlcNAc-β-1,3-(Neu5Gc-α-2,6-Gal-β-1,4-GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	95	12
H0105	Fuc-α-1,2-Gal-β-1,4-GlcNAc-β-1,3-(Fuc-α-1,2-Gal-β-1,4-GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	63	8
H0106	Fuc-α-1,2-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,3-[Fuc-α-1,2-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,6-]Gal-β-1,4-Glc-Sp5	39	2
H0200	Gal-β-1,4-GlcNAc-β-1,3-(GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	82	9
H0201	Neu5Ac-α-2,6-Gal-β-1,4-GlcNAc-β-1,3-(GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	128	10
H0202	Neu5Gc-α-2,6-Gal-β-1,4-GlcNAc-β-1,3-(GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	129	20
H0203	Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,3-(GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	93	1
H0204	Fuc-α-1,2-Gal-β-1,4-GlcNAc-β-1,3-(GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	81	15
H0205	Neu5Ac-α-2,6-Gal-β-1,4-GlcNAc-β-1,3-(Gal-β-1,4-GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	96	9
H0207	Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,3-(Gal-β-1,4-GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	114	6
H0208	Fuc-α-1,2-Gal-β-1,4-GlcNAc-β-1,3-(Gal-β-1,4-GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	123	10
H0209	Fuc-α-1,2-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,3-(GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	95	13
H0210	Fuc-α-1,2-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,3-[Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,6-]Gal-β-1,4-Glc-Sp5	150	31
H0300	GlcNAc-β-1,3-(Gal-β-1,4-GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	166	12
H0301	GlcNAc-β-1,3-(Neu5Ac-α-2,6-Gal-β-1,4-GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	132	23
H0303	GlcNAc-β-1,3-[Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,6-]Gal-β-1,4-Glc-Sp5	85	11
H0304	Fuc-α-1,2-GlcNAc-β-1,3-(Gal-β-1,4-GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	92	9
H0305	Gal-β-1,4-GlcNAc-β-1,3-(Neu5Ac-α-2,6-Gal-β-1,4-GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	68	8
H0306	Gal-β-1,4-GlcNAc-β-1,3-(Neu5Gc-α-2,6-Gal-β-1,4-GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	94	13
H0307	Gal-β-1,4-GlcNAc-β-1,3-[Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,6-]Gal-β-1,4-Glc-Sp5	94	11
H0400	Gal-β-1,4-Glc-Sp	1,044	110
H0402	GalNAc-β-1,3-Gal-β-1,4-Glc-Sp	270	50
H0403	Neu5Ac-α-2,3-Gal-β-1,4-Glc-Sp	468	37
H0404	Neu5Gc-α-2,3-Gal-β-1,4-Glc-Sp	396	38
H0405	Neu5Ac-α-2,6-Gal-β-1,4-Glc-Sp	412	29
H0406	Neu5Gc-α-2,6-Gal-β-1,4-Glc-Sp	426	46
H0407	Gal-α-1,3-Gal-β-1,4-Glc-Sp	271	26
H0408	Neu5Ac-α-2,8-Neu5Ac-α-2,3-Gal-β-1,4-Glc-Sp	107	42
H0409	Neu5Ac-α-2,8-Neu5Ac-α-2,6-Gal-β-1,4-Glc-Sp	148	35
H0410	Neu5Ac-α-2,3-Gal-α-1,3-Gal-β-1,4-Glc-Sp	191	32
H0411	Neu5Ac-α-2,6-Gal-α-1,3-Gal-β-1,4-Glc-Sp	281	50

H0500	Gal-α-1,4-Gal-β-1,4-Glc-Sp5	260	19
H0503	GalNAc-β-1,3-Gal-α-1,4-Gal-β-1,4-Glc-Sp5	164	6
H0504	Gal-β-1,3-GalNAc-β-1,3-Gal-α-1,4-Gal-β-1,4-Glc-Sp5	110	7
H0505	Fuc-α-1,2-Gal-β-1,3-GalNAc-β-1,3-Gal-α-1,4-Gal-β-1,4-Glc-Sp5	97	8
H0600	Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	103	14
H0601	Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	153	9
H0602	Fuc-α-1,2-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	129	13
H0603	GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	170	14
H0604	Neu5Ac-α-2,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	116	20
H0606	Gal-β-1,4-GlcNAc-β-1,3-(Neu5Ac-α-2,6-)Gal-β-1,4-Glc-Sp5	160	8
H0608	Fuc-α-1,2-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	144	7
H0609	Neu5Ac-α-2,3-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	166	15
H0610	GlcNAc-β-1,3-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	279	24
H0700	Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	103	13
H0701	GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	174	21
H0800	Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	115	13
H0900	Gal-β-1,3-GlcNAc-β-1,3-(GlcNAc-β-1,6-)Gal-β-1,4-Glc-Sp5	223	24
L1001	Neu5Ac-α-2,3-Gal-β-1,4-Glc-Sp5	78	21
L1002	Neu5Gc-α-2,3-Gal-β-1,4-Glc-Sp5	162	27
L1003	Kdn-α-2,3-Gal-β-1,4-Glc-Sp5	190	12
L1011	Neu5Ac-a-2,3-(GalNAc-b-1,4-)Gal-b-1,4-Glc-Sp5	60	17
L1012	Neu5Gc-a-2,3-(GalNAc-b-1,4-)Gal-b-1,4-Glc-Sp5	67	14
L1013	Kdn-a-2,3-(GalNAc-b-1,4-)Gal-b-1,4-Glc-Sp5	79	20
L1021	Neu5Ac-a-2,3-(Gal-b-1,3-GalNAc-b-1,4-)Gal-b-1,4-Glc-Sp5	58	14
L1022	Neu5Gc-a-2,3-(Gal-b-1,3-GalNAc-b-1,4-)Gal-b-1,4-Glc-Sp5	81	7
L1023	Kdn-a-2,3-(Gal-b-1,3-GalNAc-b-1,4-)Gal-b-1,4-Glc-Sp5	173	32
L1201	Neu5Ac-α-2,8-Neu5Ac-α-2,3-Gal-β-1,4-Glc-Sp5	83	24
L1202	Neu5Gc-α-2,8-Neu5Ac-α-2,3-Gal-β-1,4-Glc-Sp5	136	16
L1203	Kdn-α-2,8-Neu5Ac-α-2,3-Gal-β-1,4-Glc-Sp5	117	13
L1204	Neu5Ac-α-2,8-Neu5Gc-α-2,3-Gal-β-1,4-Glc-Sp5	64	29
L1205	Neu5Gc-α-2,8-Neu5Gc-α-2,3-Gal-β-1,4-Glc-Sp5	70	25
L1206	Kdn-α-2,8-Neu5Gc-α-2-,3-Gal-β-1,4-Glc-Sp5	65	27
L1207	Neu5Ac-α-2,8-Kdn-α-2,3-Gal-β-1,4-Glc-Sp5	58	21
L1209	Kdn-α-2,8-Kdn-α-2,3-Gal-β-1,4-Glc-Sp5	90	23
L1211	Neu5Ac-α-2,8-Neu5Ac-α-2,3-(GalNAc-b-1,4-)Gal-β-1,4-Glc-Sp5	39	18
L1212	Neu5Gc-α-2,8-Neu5Ac-α-2,3-(GalNAc-b-1,4-)Gal-β-1,4-Glc-Sp5	49	20
L1213	Kdn-α-2,8-Neu5Ac-α-2,3-(GalNAc-b-1,4-)Gal-β-1,4-Glc-Sp5	44	19
L1214	Neu5Ac-α-2,8-Neu5Gc-α-2,3-(GalNAc-b-1,4-)Gal-β-1,4-Glc-Sp5	35	11
L1215	Neu5Gc-α-2,8-Neu5Gc-α-2,3-(GalNAc-b-1,4-)Gal-β-1,4-Glc-Sp5	32	23
L1216	Kdn-α-2,8-Neu5Gc-α-2,3-(GalNAc-b-1,4-)Gal-β-1,4-Glc-Sp5	38	23
L1221	Neu5Ac-α-2,8-Neu5Ac-α-2,3-(Gal-b-1,3-GalNAc-b-1,4-)Gal-β-1,4-Glc-Sp5	24	10

L1222	Neu5Gc-α-2,8-Neu5Ac-α-2,3-(Gal-b-1,3-GalNAc-b-1,4-)Gal-β-1,4-Glc-Sp5	64	23
L1225	Neu5Gc-α-2,8-Neu5Gc-α-2,3-(Gal-b-1,3-GalNAc-b-1,4-)Gal-β-1,4-Glc-Sp5	93	22
L1226	Kdn-α-2,8-Neu5Gc-α-2,3-(Gal-b-1,3-GalNAc-b-1,4-)Gal-β-1,4-Glc-Sp5	103	18
L2000	GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	449	33
L2100	Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	114	15
L2101	Gal-a-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	107	16
L2102	Gal-a-1,4-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	125	20
L2111	Neu5Ac-a-2,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	97	15
L2112	Neu5Gc-a-2,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	28	8
L2113	Kdn-a-2,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	63	11
L2121	Neu5Ac-a-2,8-Neu5Ac-a-2,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	58	19
L2122	Neu5Gc-a-2,8-Neu5Ac-a-2,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	78	15
L2103	Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	122	15
L2104	Gal-a-1,3-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	96	16
L2131	Neu5Ac-a-2,3-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	112	17
L2132	Neu5Gc-a-2,3-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	82	12
L2133	Kdn-a-2,3-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	95	12
L2191		77	27
L2192		64	16
L2200	GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	103	16
L2300	Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	90	15
L2301	Gal-a-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	78	14
L2302	Gal-a-1,4-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	81	14
L2311	Neu5Ac-a-2,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	66	9
L2312	Neu5Gc-a-2,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	74	12
L2303	Gal-β-1,4-GlcNAc-β-1,3-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	77	13
L2304	Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,3-Gal-β-1,4-(Fuc-α-1,3-)GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	80	16
L2391		74	21
L2392		90	10
L2900	Gal-β-1,3-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	340	49
L2911	Neu5Ac-a-2,3-Gal-β-1,3-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	127	26
L2912	Neu5Gc-a-2,3-Gal-β-1,3-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	149	24
L2913	Kdn-a-2,3-Gal-β-1,3-GlcNAc-β-1,3-Gal-β-1,4-Glc-Sp5	134	20
L3100	Gal-α-1,4-Gal-β-1,4-Glc-Sp5	150	25
L3101	GalNAc-β-1,3-Gal-α-1,4-Gal-β-1,4-Glc-Sp5	103	19
L3102	Gal-β-1,3-GalNAc-β-1,3-Gal-α-1,4-Gal-β-1,4-Glc-Sp5	100	17
L3111	Neu5Ac-a-2,3-Gal-β-1,3-GalNAc-β-1,3-Gal-α-1,4-Gal-β-1,4-Glc-Sp5	62	11
L3112	Neu5Gc-a-2,3-Gal-β-1,3-GalNAc-β-1,3-Gal-α-1,4-Gal-β-1,4-Glc-Sp5	73	18
L3113	Kdn-a-2,3-Gal-β-1,3-GalNAc-β-1,3-Gal-α-1,4-Gal-β-1,4-Glc-Sp5	89	30
L3103		98	20

L3200	Gal-α-1,3-Gal-β-1,4-Glc-Sp5	140	34
L3201	GalNAc-β-1,3-Gal-α-1,3-Gal-β-1,4-Glc-Sp5	117	13
L3202	Gal-β-1,3-GalNAc-β-1,3-Gal-α-1,3-Gal-β-1,4-Glc-Sp5	87	14
L3211	Neu5Ac-a-2,3-Gal-β-1,3-GalNAc-β-1,3-Gal-α-1,3-Gal-β-1,4-Glc-Sp5	77	16
L3212	Neu5Gc-a-2,3-Gal-β-1,3-GalNAc-β-1,3-Gal-α-1,3-Gal-β-1,4-Glc-Sp5	81	20
L3213	Kdn-a-2,3-Gal-β-1,3-GalNAc-β-1,3-Gal-α-1,3-Gal-β-1,4-Glc-Sp5	88	16