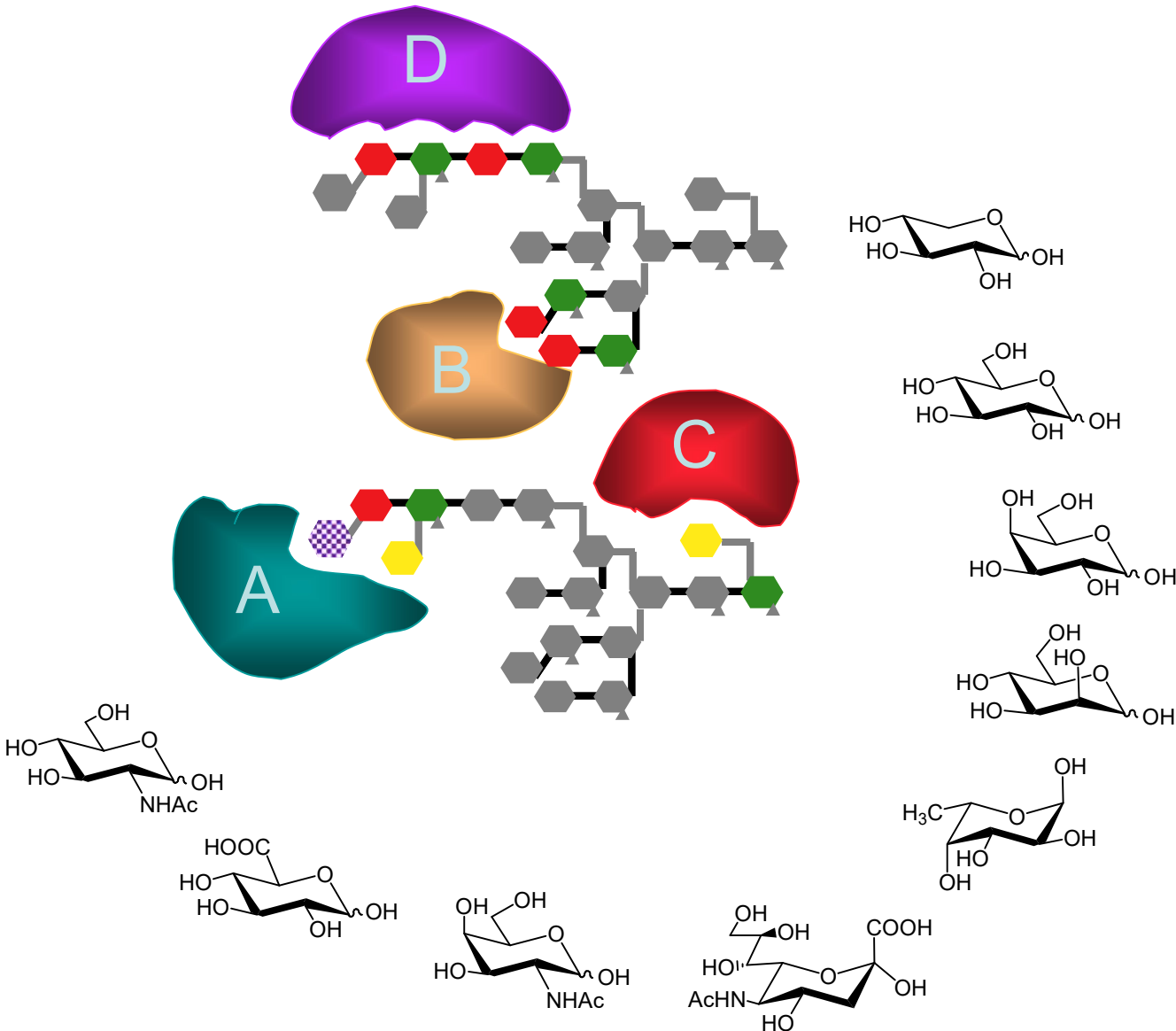
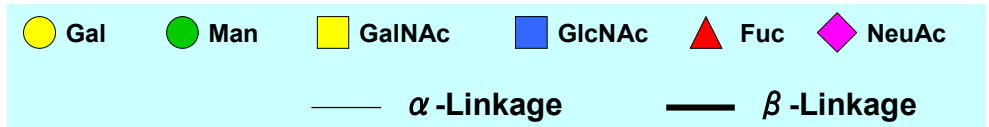


GlycoStation™

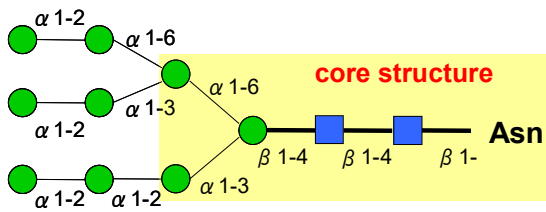
Glycan Structure & Lectin Specificity Ver. 2.0



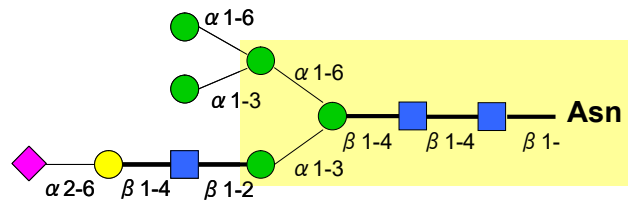
Glycan structure 1



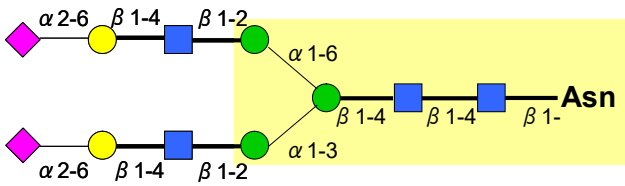
High mannose type (one example)



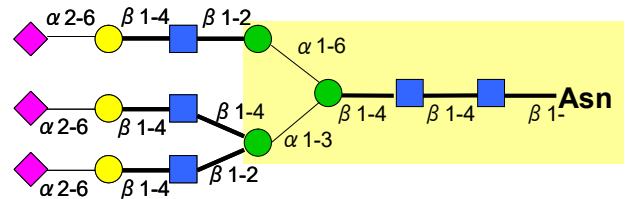
Hybrid type (one example)



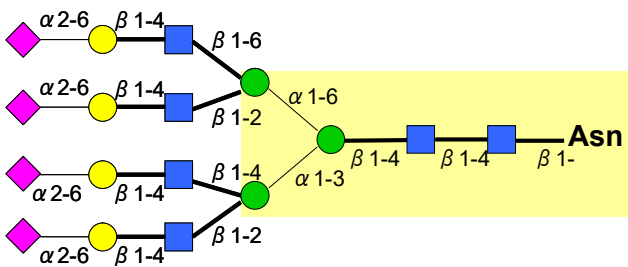
Complex type: bi-antennary (one example)



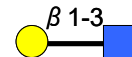
Complex type: tri-antennary (one example)



Complex type: tetra-antennary (one example)

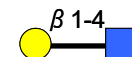


N-Acetylglucosamine type1



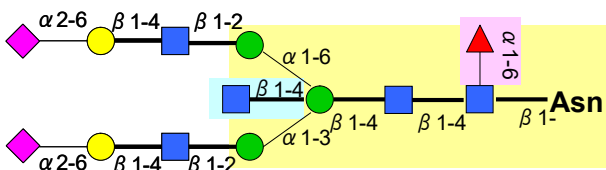
N-Acetylglucosamine type2

(generality)

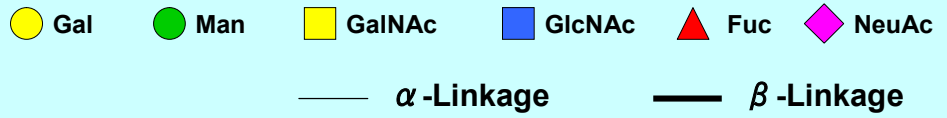


core fucose : Fuc that unites with GlcNAc residue that unites with Asn

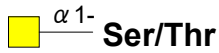
bisecting-GlcNAc : GlcNAc that unites with C - 4th place in the β -mannose in core structure



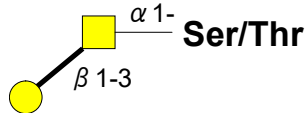
Glycan structure 2



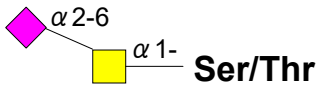
Tn-antigen



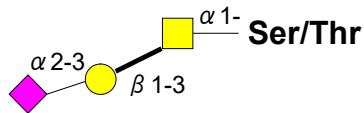
T-antigen (= Core1)



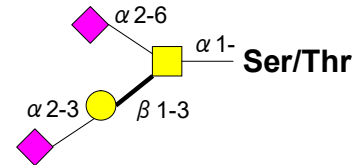
sialyl-T-antigen



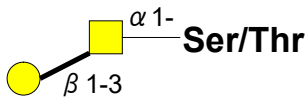
sialyl-T-antigen



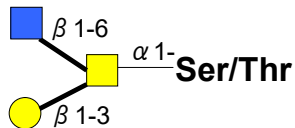
disialyl-T-antigen



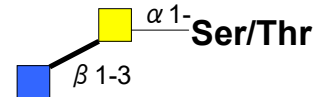
Core1 (=T-antigen)



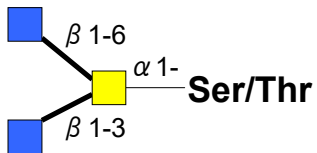
Core2



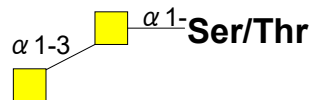
Core3



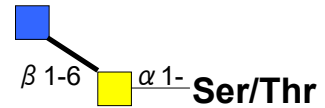
Core4



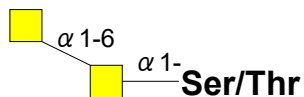
Core5



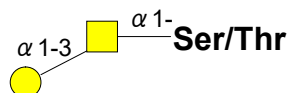
Core6



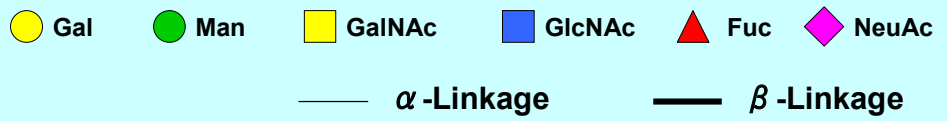
Core7



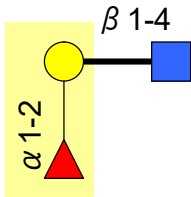
Core8



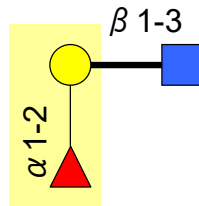
Glycan structure 3



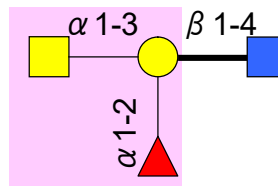
H-antigen Type II



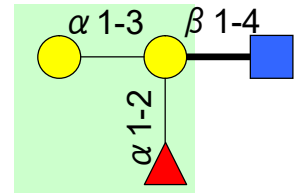
H-antigen Type I



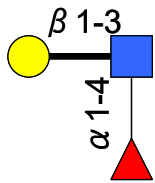
A-antigen



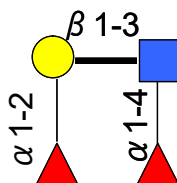
B-antigen



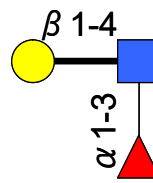
Lewis^a



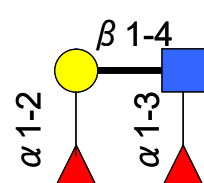
Lewis^b



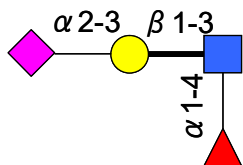
Lewis^x



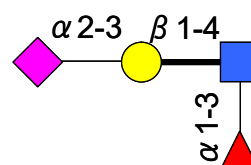
Lewis^y



sialyl-Lewis^a



sialyl-Lewis^x



A list of lectins on LecChip™ Ver. 1.0 and the specificity

No.	Lectin (<i>origin</i>)	Reported glycan selectivity
1	LTL (<i>Lotus tetragonolobus</i>)	Fuca1-3(Galβ1-4)GlcNAc (Lewis x), Fuca1-2Galβ1-4GlcNAc (H-type 2)
2	PSA (<i>Pisum sativum</i>)	Fuca1-6GlcNAc (Core Fuc) , α-Man
3	LCA (<i>Lens culinaris</i>)	Fuca1-6GlcNAc (Core Fuc), α-Man
4	UEA-I (<i>Ulex europaeus</i>)	Fuca1-2Galβ1-4GlcNAc (H-type 2)
5	AOL (<i>Aspergillus oryzae</i>)	Fuca1-6GlcNAc (Core Fuc), Fuca1-2Galβ1-4GlcNAc (H-type 2)
6	AAL (<i>Aleuria aurantia</i>)	Fuca1-3(Galβ1-4)GlcNAc (Lewis x), Fuca1-6GlcNAc (Core Fuc)
7	MAL I (<i>Maackia amurensis</i>)	Siaα2-3Galβ1-4GlcNAc
8	SNA (<i>Sambucus nigra</i>)	Siaα2-6Gal/GalNAc
9	SSA (<i>Sambucus sieboldiana</i>)	Siaα2-6Gal/GalNAc
10	TJA-I (<i>Trichosanthes japonica</i>)	Siaα2-6Gal/GalNAc, HSO3(-) -6Gal β1-4GlcNAc
11	PHAL (<i>Phaseolus vulgaris</i>)	tri/tetra-antennary complex-type N-glycan
12	ECA (<i>Erythrina cristagalli</i>)	Galβ1-4GlcNAc (up with increasing the number of terminal Gal), no affinity for fully sialylated N-type, fully agalactosylated N-type
13	RCA120 (<i>Ricinus communis</i>)	Galβ1-4GlcNAc (up with increasing the number of terminal Gal), Galβ1-3Gal (weak), no affinity for agalactosylated N-type
14	PHAE (<i>Phaseolus vulgaris</i>)	bi-antennary complex-type N-glycan with outer Gal and bisecting GlcNAc, no affinity for fully sialylated N-type
15	DSA (<i>Datura stramonium</i>)	(GlcNAcβ1-4)n (Chitin), tri/tetra-antennary N-glycan
16	GSL-II (<i>Griffonia simplicifolia</i>)	agalactosylated tri/tetra antennary glycans, GlcNAc, no affinity for fully galactosylated or sialylated N-type
17	NPA (<i>Narcissus pseudonarcissus</i>)	High-Mannose including Manα1-6Man
18	ConA (<i>Canavalia ensiformis</i>)	High-Mannose including Manα1-6(Manα1-3)Man
19	GNA (<i>Galanthus nivalis</i>)	High-Mannose including Manα1-3Man
20	HHL (<i>Hippeastrum hybrid</i>)	High-Mannose including Manα1-3Man or Manα1-6Man
21	ACG (<i>mushroom, Agrocybe cylindracea</i>)	Gal β1-3Gal, Siaα2-3Galβ1-4GlcNAc
22	TxLCI (<i>Tulipa gesneriana</i>)	Manα1-3(Manα1-6)Man, bi/tri-antennary complex-type N-glycan, GalNAc
23	BPL (<i>Bauhinia purpurea</i>)	Galβ1-3GalNAc (up with Lewis x, down with Core Fuc), GalNAc
24	TJA-II (<i>Tanthes japonica</i>)	Fuca1-2Galβ1-> or GalNAcβ1-> groups at their non-reducing terminals
25	EEL (<i>Euonymus europaeus</i>)	Galα1-3Galβ1-4GlcNAc, Fuca1-2Galβ1-3GlcNAc (H antigen)
26	ABA (<i>fungus, Agaricus bisporus</i>)	Galβ1-3GalNAc, GlcNAc
27	LEL (<i>tomato, Lycopersicon esculentum</i>)	(GlcNAcβ1-4)n (Chitin), (Galβ1-4GlcNAc)n (polylactosamine)
28	STL (<i>potato, Solanum tuberosum</i>)	(GlcNAcβ1-4)n (Chitin) oligosaccharide containing GlcNAc and MurNAc
29	UDA (<i>Urtica dioica</i>)	GlcNAcβ1-4GlcNAc (Chitin), High-Mannose (3 to High, up with increasing the number of Man)
30	PWM (<i>pokeweed, Phytolacca Americana</i>)	(GlcNAcβ1-4)n (Chitin)
31	Jacalin (<i>Artocarpus integrifolia</i>)	GlcNAcβ1-3GalNAc (Core3), Siaα2-3Galβ1-3GalNAc (sialyl T), Galβ1-3GalNAc (T-antigen), α-GalNAc (Tn-antigen)
32	PNA (<i>peanut, Arachis hypogaea</i>)	Galβ1-3GalNAc
33	WFA (<i>Wisteria floribunda</i>)	GalNAcβ1-4GlcNAc (LacdiNAc), Galβ1-3(-6)GalNAc
34	ACA (<i>Amaranthus caudatus</i>)	Galβ1-3GalNAc (T-antigen), Siaα2-3Galβ1-3GalNAc (sialyl T)
35	MPA (<i>Maclura pomifera</i>)	α-GalNAc (Tn-antigen), Galβ1-3GalNAc (T-antigen)
36	HPA (<i>snail, Helix pomatia</i>)	α-GalNAc
37	VVA (<i>Vicia villosa</i>)	GalNAcβ1-4Gal, GalNAcβ1-3Gal, α-GalNAc
38	DBA (<i>Dolichos biflorus</i>)	Blood group A, GalNAcα1-3GalNAc, GalNAcβ1-4(Siaα2-3)Galβ1-4Glc (GM2)
39	SBA (<i>soybean, Dolichos biflorus</i>)	α- or β-linked GalNAc, Galα1-4Gal-Glc
40	Calsepa (<i>Calystegia sepium</i>)	Galactosylated bianntenary N-type with bisecting GlcNAc (galacto > agalacto, down with Core Fuc), High-Mannose (Man2-6)
41	PTL-I (<i>Psophocarpus tetragonolobus</i>)	α-GalNAc, Galα1-3(Fuca1-2)Gal (B-antigen)
42	MAH (<i>Maackia amurensis</i>)	Siaα2-3Galβ1-3(Siaα2-6)GalNAc (disialyl-T)
43	WGA (<i>wheat germ, Triticum aestivum</i>)	(GlcNAcβ1-4)n (Chitin), Hybrid type N-glycan, Sia
44	GSL-I A4 (<i>Griffonia simplicifolia</i>)	α-GalNAc
45	GSL-I B4 (<i>Griffonia simplicifolia</i>)	α-Gal

A list of lectins on LecChip™ Ver. 2.0 and the specificity

No.	Lectin (<i>origin</i>)	Reported glycan selectivity
1	rOAA (<i>Planktothrix agardhii</i>)	High Mannose Type I
2	rKAA1 (<i>Kappaphycus alvarezii</i>)	High Mannose Type I
3	rMPA1 (<i>Meristotheca papulosa</i>)	High Mannose Type I
4	rMPA2 (<i>Meristotheca papulosa</i>)	High Mannose Type I
5	rESA2 (<i>Eucheuma serra</i>)	High Mannose Type I
6	rBCA1b-pro (<i>Boodlea coacta</i>)	High Mannose Type II
7	rBCA1b (<i>Boodlea coacta</i>)	High Mannose Type II
8	rBCA2-pro (<i>Boodlea coacta</i>)	High Mannose Type II
9	rBCA2 (<i>Boodlea coacta</i>)	High Mannose Type II
10	rBPL17 (<i>Bryopsis plumosa</i>)	High Mannose Type III
11	rMPL1 (<i>Meristotheca papulosa</i>)	High Mannose Type IV
12	rCV-N (<i>Nostoc ellipsosporum</i>)	High Mannose
13	rGRFT (<i>Griffithsia sp.</i>)	High Mannose
14	rMVL (<i>Microcystis viridis</i>)	High Mannose
15	rCalsepa (<i>Calystegia sepium</i>)	High Mannose
16	rHypninA2 (<i>Hypnea japonica</i>)	Core Fucose
17	PhoSL (<i>Pholiota squarrosa</i>)	Core Fucose
18	rAAL (<i>Aleuria aurantia</i>)	Fuca1-3, Fuca1-2
19	rPA-III (<i>Pseudomonas aeruginosa</i>)	Fucose, Mannose
20	rCLA (<i>Codium latum</i>)	Disclosed as soon as clarified
21	UEA-I (<i>Ulex europaeus</i>)	Fuca1-2Galβ1-4GlcNAc (H-antigen type2)
22	PHAE (<i>Phaseolus vulgaris</i>)	bi-antennary complex-type N-glycan with outer Gal and bisecting GlcNAc, no affinity for fully sialylated N-type
23	PHAL (<i>Phaseolus vulgaris</i>)	tri/tetra-antennary complex type N-glycan
24	rACG (<i>Agroclybe cylindracea</i>)	α2-3Sia (Neu5Ac)
25	MAL_I (<i>Maackia amurensis</i>)	α2-3Sia (Neu5Ac)
26	rPSL1a (<i>Polyporus squamosus</i>)	α2-6Sia (Neu5Ac)
27	rLSL-N (<i>Laetiporus sulphureus</i>)	LacNAc, polyLacNAc
28	rDiscoidin II (<i>Dictyostelium discoideum</i>)	Gal, LacNAc, Asialo
29	rF17AG (<i>Escherichia coli</i>)	GlcNAc
30	rULL-pro (<i>Ulva limnetica</i>)	Disclosed as soon as clarified
31	rPVL (<i>mushroom Psathyrella velutina</i>)	Agalacto (GlcNAc)
32	rMalectin (<i>Homo sapiens</i>)	Glc-N-biose
33	rABA (<i>Agaricus bisporus</i>)	T-antigen, Agalacto (GlcNAc)
34	Jacalin (<i>Artocarpus integrifolia</i>)	GlcNAcβ1-3GalNAc (Core3), Siaα2-3Galβ1-3GalNAc (sialyl T), Galβ1-3GalNAc (T-antigen), α-GalNAc (Tn-antigen)
35	rCFAsub1 (<i>Codium subtubulosum</i>)	GalNAc
36	rBCL11a (<i>Bryopsis corticulans</i>)	GalNAc, GlcNAc
37	IRA (<i>Iris hybrid</i>)	GalNAcα1-3GalNAc (Core5)
38	MAH (<i>Maackia amurensis</i>)	Siaα2-3Galβ1-3(Siaα2-6)GalNAc (disialyl-T)
39	WFA (<i>Wisteria floribunda</i>)	GalNAcβ1-4GlcNAc (LacdiNAc), Galβ1-3(-6)GalNAc
40	rCNL (<i>Clitocybe nebularis</i>)	α/β-GalNAc
41	rDiscoidin I (<i>Dictyostelium discoideum</i>)	β-GalNAc
42	SJA (<i>Sophora japonica</i>)	β-GalNAc
43	rBcBry1-1C (<i>Bryopsis corticulans</i>)	Sulfated carbohydrates
44	rCGL2 (<i>sea mussel Crenomytilus grayanus</i>)	Blood Group A, Blood Group B
45	rMOA (<i>Marasmius oreades</i>)	α-Gal

LecChip™ Ver.1.0

- | | | | | |
|----------|------------|------------|-------------|--------------|
| 1. LTL | 10. TJA-I | 19. GNA | 28. STL | 37. VVA |
| 2. PSA | 11. PHAL | 20. HHL | 29. UDA | 38. DBA |
| 3. LCA | 12. ECA | 21. ACG | 30. PWM | 39. SBA |
| 4. UEA I | 13. RCA120 | 22. TxLC I | 31. Jacalin | 40. Calsepa |
| 5. AOL | 14. PHAE | 23. BPL | 32. PNA | 41. PTL I |
| 6. AAL | 15. DSA | 24. TJA-II | 33. WFA | 42. MAH |
| 7. MAL | 16. GSL II | 25. EEL | 34. ACA | 43. WGA |
| 8. SNA | 17. NPA | 26. ABA | 35. MPL | 44. GSL-I A4 |
| 9. SSA | 18. ConA | 27. LEL | 36. HPA | 45. GSL-I B4 |

Coming soon !

LecChip™ Ver.2.0

- | | | | | |
|---------------|---------------|-------------|-------------------|------------------|
| 1. rOAA | 10. rBPL17 | 19. rPA-IIL | 28. rDiscoidin II | 37. IRA |
| 2. rKAA-1 | 11. rMPL1 | 20. rCLA | 29. rF17AG | 38. MAH |
| 3. rMPA-1 | 12. rCV-N | 21. UEA-I | 30. rULL-pro | 39. WFA |
| 4. rMPA-2 | 13. rGRFT | 22. PHA(E) | 31. rPVL | 40. rCNL |
| 5. rESA-2 | 14. rMVL | 23. PHA(L) | 32. rMalectin | 41. rDiscoidin I |
| 6. rBCA1b-pro | 15. rCalsepa | 24. rACG | 33. rABA | 42. SJA |
| 7. rBCA1b | 16. rHypninA2 | 25. MAL_I | 34. Jacalin | 43. rBry1-1C |
| 8. rBCA-2-pro | 17. PhoSL | 26. rPSL1a | 35. rCFAsub1 | 44. rCGL2 |
| 9. rBCA-2 | 18. rAAL | 27. rLSL-N | 36. BCL11a | 45. rMOA |