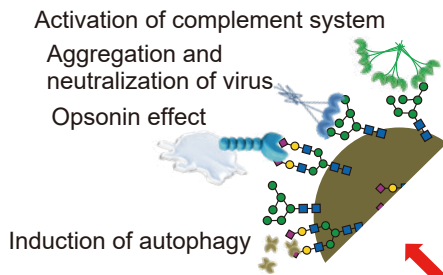


Virus-related Glycan Epitopes (Virus-related Oligosaccharides)

Virus-oligosaccharide relationship

When a virus infects mammalian host cells, glycan epitopes on the cell surface is exploited as a virus receptor. And the surface of a virus particle is frequently modified with glycosylation in order to escape from an immunological host defense. For studies of virus-glycan interaction and infectious inhibition, we show a lineup of oligosaccharide products containing virus-related glycan epitope structures.

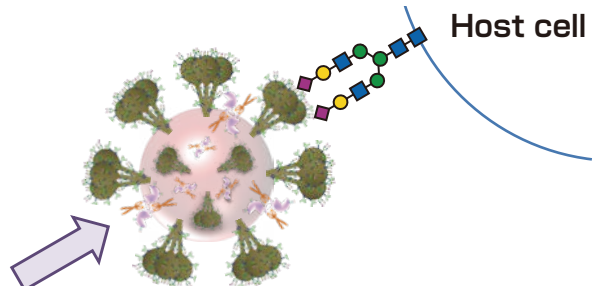
Target of host defense



Research for immune response against viruses mediated by glycan epitopes

Virus adhesion receptor

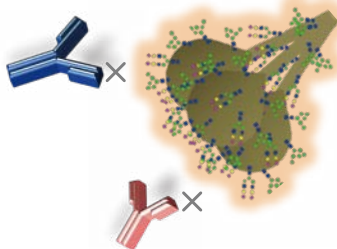
Virus Infection mediated by terminal glycan epitopes of oligosaccharide on a host cell surface



Development of seeds exploration targeting infection and budding of viruses

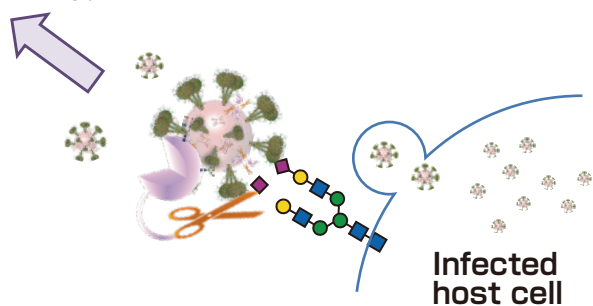
Protection of antigen

Escape from immune-recognition of exogenous substance by highly frequent glycosylation of virus particles







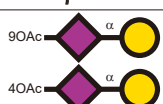





Substrate of virus enzyme

Virus budding accompanied with destruction of glycan epitopes on a cell surface for next infection



	Virus		Glycan (representative images)
	Spike protein, Hemagglutinin		Lectins
	Hemagglutinin Esterase (fusion), Hemagglutinin neuraminidase		

Virus-related terminal epitopes of oligosaccharide

Saccharide Symbol Saccharide Linear Code	TCI Product Name or [TCI Product Code]	Adenoviridae			Polyomaviridae				Parvoviridae				
		Human (HAdV-8, 19a, 37)	Bovine (BAd3)	Porcine (Pad4)	Mouse Polyomavirus	BK (HPyV-1)	JC (HPyV-2)	SV40	CPV&FPV	MVM	AAV1, AAV4-6	AAV9	Erythroparvovirus (B19V)
 Siaα2-8Siaα2-3Gal					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		
 Siaα2-3Galβ1-3GalNAc	SSEA-4	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		
 Siaα2-3Galβ1-4GlcNAc	[N0854][S0910] Neu5Acα(2-3)Galβ(1-4)GlcNAc-β-propylamine		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
 Siaα2-6Galβ1-4GlcNAc	[S0523][D4065][N1065][N0913][D4217][N0950] [N0856][N1117][N1118]		<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>		
 9-OAc SiaαGal 4-OAc SiaαGal	[A3414][A3415] 9OAc-Neu5Acα(2-3)Galβ(1-4)Glc 9OAc-Neu5Acα(2-6)Galβ(1-4)Glc												
 (Galβ1-4GlcNAc) _n	[G0515] LacNAc 2mer (L1-L1) LacNAc 4mer (L1-L1-L1-L1)			<input type="checkbox"/>								<input type="checkbox"/>	
 Galβ1-4(α1-3Fuc)GlcNAc	[S0946][H1719]												
 GalNAcα1-3(α1-2Fuc)Galβ	[A2631] Trisaccharide (A Antigen) PEG-resin Blood-type A Antigen propylamine												
 Galα1-3(α1-2Fuc)Galβ	[B4172] Trisaccharide (B Antigen) PEG-resin Blood-type B Antigen propylamine												
 GalNAcβ1-3Galα1-4Gal	[G0354][G0446][G0580]												<input type="checkbox"/>

Virus-related Glycan Epitopes (Virus-related Oligosaccharides)

Reoviridae	
Rotaviruses A and C	
"SA-dependent"	○
"SA-independent"	○
ReoViruses	○
Type1 (Lang)	○
Type3 (Dearing)	○
Caliciviridae	
Noroviruses	
Human/bovine/canine	○
Murine (MNV)	○
Lagovirus (RHDV)	
Saporivirus(Porcine)	○
Vesivirus	○
Coronaviridae	
Alpha	○
Beta	○
Gamma	
Trovirinae	
Picornaviridae	
EV68	○
EV70	○
Porcine Sapelovirus	○
Coxsackie A24	○
Arenavirus	
Lassa (internal receptor)	○
Paramyxoviridae	
Human para influenza	○
Newcastle Disease	○
Sendai	○
Mumps	○
Measles	○
Orthomyxoviridae	
Human Influenza A	○
Avian Influenza A	○
Influenza B	○
Influenza C	○
Influenza D	○
Isa	○

Reference A. J. Thompson, R. P. de Vries, J. C. Paulson, *Curr. Opin. Virol.* **2019**, 34, 117.
DOI: <https://doi.org/10.1016/j.coviro.2019.01.004>

Virus-related Glycan Epitopes (Virus-related Oligosaccharides)

Oligosaccharides containing virus-related glycan epitopes

[Sia α 2-3Gal β 1-3GalNAc]

SSEA-4

Contact us

[Sia α 2-3Gal β 1-4GlcNAc]

Neu5Ac α (2-3)Gal β (1-4)GlcNAc- β -pNP
Sialyl Neolactotetraosylceramide (=Sialyl nLc₄Cer)
Neu5Ac α (2-3)Gal β (1-4)GlcNAc- β -propylamine

2mg [N0854]

Contact us [S0910]

[Sia α 2-6Gal β 1-4GlcNAc]

Sialylglycopeptide (SGP)
Disialyloctasaccharide
Neu5Ac α (2-6) N-Glycan
DisialylInonasaccharide- β -pNP
DisialylInonasaccharide- β -ethylazide
Neu5Ac α (2-6)Gal β (1-4)GlcNAc- β -ethylamine
Neu5Ac α (2-6)Gal β (1-4)GlcNAc- β -pNP
Neu5Ac α (2-6)Gal β (1-4)GlcNAc β (1-3)Gal β (1-4)GlcNAc- β -propylamine
Neu5Ac α (2-6)Gal β (1-4)GlcNAc β (1-3)Gal β (1-4)GlcNAc β (1-3)Gal β (1-4)GlcNAc- β -propylamine

10mg [S0523]

10mg [D4065]

1mg [N1065]

1mg [N0913]

1mg [D4217]

5mg [N0950]

2mg [N0856]

Contact us [N1117]

Contact us [N1118]

[9-OAcSia α Gal]

N-Acetyl-9-O-acetylneuraminic Acid
N-Acetyl-9-deoxy-9-acetamidoneuraminic Acid
9OAc-Neu5Ac α (2-3)Gal β (1-4)Glc
9OAc-Neu5Ac α (2-6)Gal β (1-4)Glc

Contact us [A3414]
[A3415]

[(Gal β 1-4GlcNAc)_n]

L1-L1- β -PEG₃-biotin
LacNAc 2mer (L1-L1)
LacNAc 4mer (L1-L1-L1-L1)

Contact us [G0515]

[Gal β 1-4(α 1-3Fuc)GlcNAc]

SSEA-1-PrNH₂
HSA-Lewis X

Contact us [S0946]

0.1mg/vial [H1719]

[GalNAc α 1-3(α 1-2Fuc)Gal β]

A Antigen PEG-trifluoroacetamide
Trisaccharide (Blood-type A Antigen) PEG-resin
Blood-type A Antigen propylamine

Contact us [A2631]

[Gal α 1-3(α 1-2Fuc)Gal β]

B Antigen PEG-trifluoroacetamide
Trisaccharide (Blood-type B Antigen) PEG-resin
Blood-type B Antigen propylamine

Contact us [B4172]

[GalNAc β 1-3Gal α 1-4Gal]

GalNAc β (1-3)Gal α (1-4)Gal β (1-4)Glc- β -pNP
Gb₄-PrNH₂
Gb₄-Ceramide

5mg [G0354]

Contact us [G0446]
[G0580]

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