Рекомбинантные лектины

Технические характеристики

LIFE SCIENCE

TCI

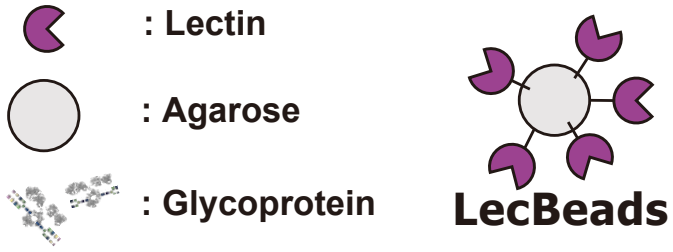
Carbohydrate-binding Protein Related Reagents

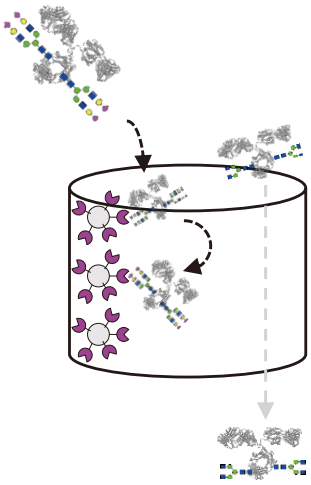
Recombinant Lectins

Lectins are highly specific carbohydrate-binding proteins of nonimmune origin. Due to their ability to bind with cell-surface glycoproteins and glycolipids, lectins could agglutinate cells; they also could reversibly associate polysaccharides and glycoproteins in solution.
Lectin has long been well-known as tools for detection and analysis of functional oligosaccharides in the glycoscience field. Recombinant lectins show better stability compared with lectins extracted from natural resources. TCI offers not only recombinant lectins but also chemically modified lectins such as several types of biotinylated lectin and lectin-agarose for detection and capturing of glycoconjugates.

LecBeads (Lectin-Agarose)

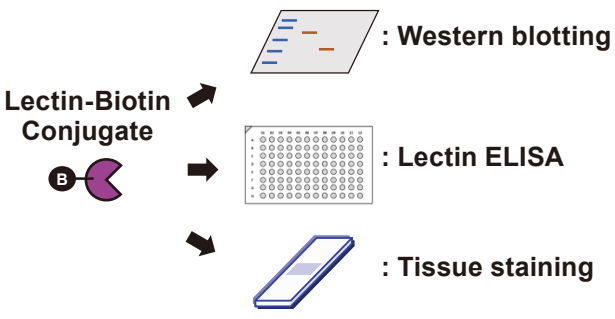
<Capturing for glycoprotein>





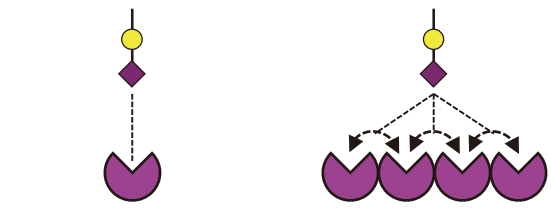
Lectin-Biotin Conjugate

<Detection for glycoprotein, glycolipid>



Lectin

<Multivalent effect by lectin>



Monovalent: weak binding

polyvalent: strong binding

LecBeads (Lectin-Agarose)

rPSL1a-LecBeads [for Siaα(2-6)Gal]	1mL/vial	[R0235]
rLSL-N-LecBeads [for Galβ(1-4)GlcNAc, poly LacNAc]	1mL/vial	[R0236]
rMOA-LecBeads [for Galα(1-3)Gal]	1mL/vial	[R0237]
rSRL-LecBeads [for GlcNAcβ(1-2)Man, Galβ(1-3)GalNAc]	1mL/vial	[R0238]
rGRFT-LecBeads [for Manα(1-2)Man]	1mL/vial	[R0239]
AOL-LecBeads [for Fucα(1-6)/α(1-4)/α(1-3)/α(1-2)]	0.5mL/vial	[A3331]

Lectin-Biotin Conjugates

rPSL1a-Biotin [for Sia α(2-6)Gal]	1mL/vial	[R0230]
rLSL-N-Biotin [for Gal β(1-4)GlcNAc, poly LacNAc]	1mL/vial	[R0231]
rMOA-Biotin [for Gal α(1-3)Gal]	1mL/vial	[R0232]
rSRL-Biotin [for GlcNAc β(1-2)Man, Gal β(1-3)GalNAc]	1mL/vial	[R0233]
rGRFT-Biotin [for Man α(1-2)Man]	1mL/vial	[R0234]
AOL-Biotin Conjugate	1mL/vial	[A2659]

Lectins

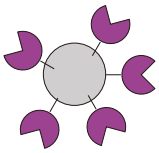
Recombinant *Polyporus squamosus* lectin (= rPSL1a) expressed in *Escherichia coli*	1mg/vial	[R0225]
Recombinant *Laetiporus sulphureus* lectin N-Terminal Domain (= rLSL-N) expressed in *Escherichia coli*	1mg/vial	[R0226]
Recombinant *Marasmius oreades* agglutinin (= rMOA) expressed in *Escherichia coli*	1mg/vial	[R0227]
Recombinant *Sclerotium rolfsii* lectin (= rSRL) expressed in *Escherichia coli*	1mg/vial	[R0228]
Recombinant *Griffithsia* sp. lectin (= rGRFT) expressed in *Escherichia coli*	1mg/vial	[R0229]
Lectin, Fucose specific (= AOL) from *Aspergillus oryzae* (5mg/mL, PBS pH6.5)	5mg/vial	[L0169]

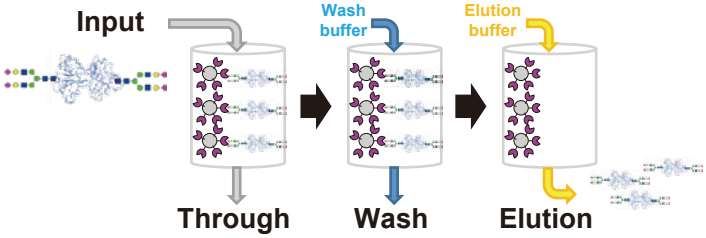
LecBeads for Capturing of Glycoconjugates

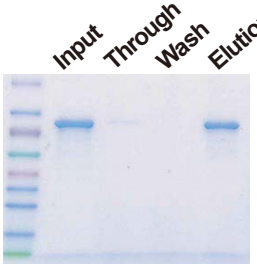
(Recombinant Lectin-Agarose)

<Ex. Capturing for glycoproteins>

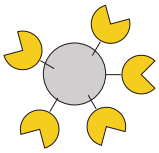
rPSL1a-LecBeads [for Siaα(2-6)Gal] [R0235]

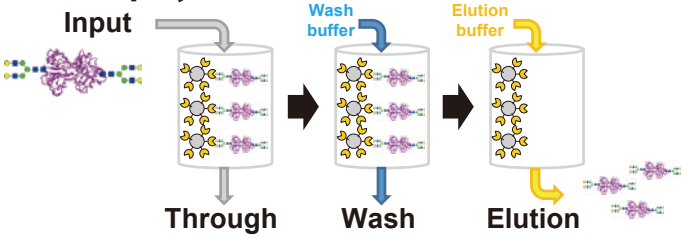


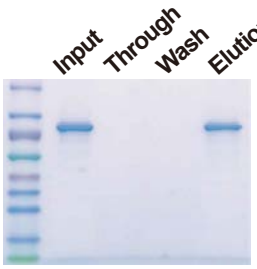




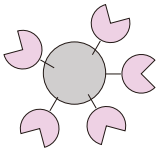
rLSL-N-LecBeads [for Galβ(1-4)GlcNAc, poly LacNAc] [R0236]

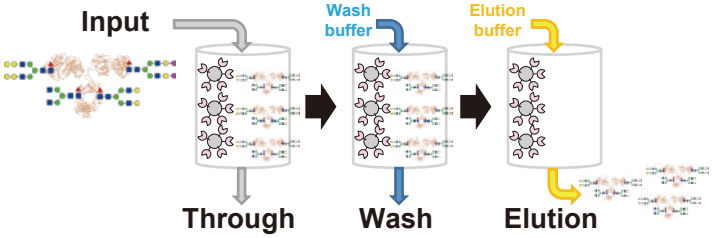


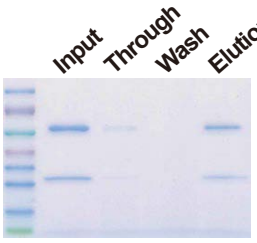




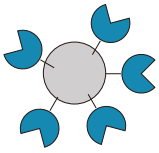
rMOA-LecBeads [for Galα(1-3)Gal] [R0237]

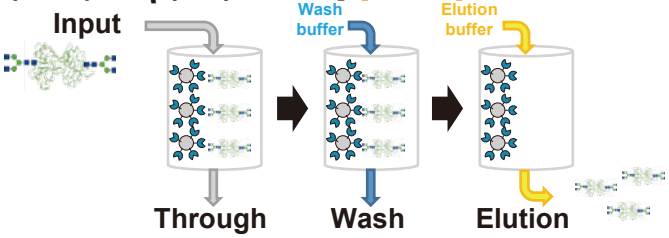


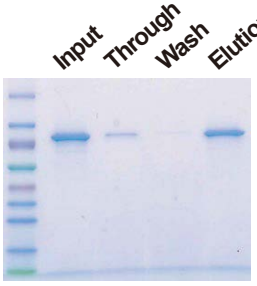




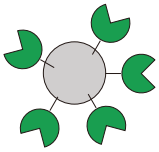
rSRL-LecBeads [for GlcNAcβ(1-2)Man, Galβ(1-3)GalNAc] [R0238]

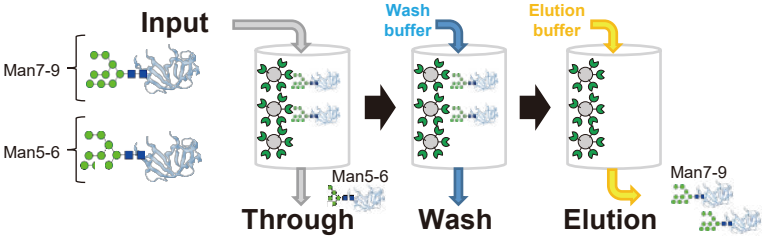


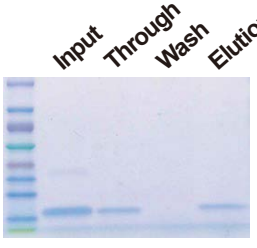




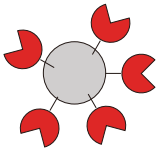
rGRFT-LecBeads [for Manα(1-2)Man] [R0239]

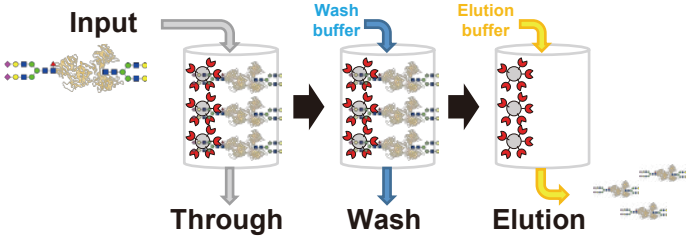


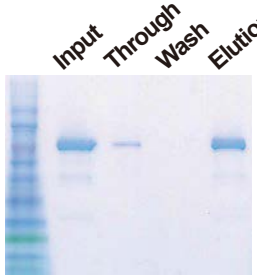




AOL-LecBeads [for Fucα(1-6)/α(1-4)/α(1-3)/α(1-2)] [A3331]







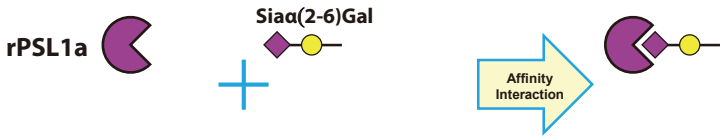
SDS-PAGE
(5-20% gradient gel,

rPSL1a-LecBeads[R0235], rLSL-N-LecBeads[R0236], rMOA-LecBeads[R0237], rSRL-LecBeads[R0238], rGRFT-LecBeads[R0239]

For Lectin-sandwich ELISA and Hemagglutinin assay
Recombinant Lectins

<Ex. Carbohydrate-binding Specificity of Lectins>

Recombinant *Polyporus squamosus* lectin (= rPSL1a) expressed in *Escherichia coli* [R0225]

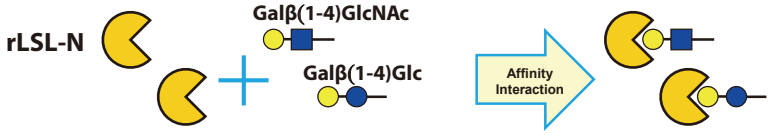


References

Cloning, expression in *Escherichia coli* and characterization of the recombinant Neu5Acα2,6Galβ1,4GlcNAc-specific high-affinity lectin and its mutants from the mushroom *Polyporus squamosus*
H. Tateno *et al.*, *Biochem. J.* **2004**, *382*, 667.

Structure and binding analysis of *Polyporus squamosus* lectin in complex with the Neu5Ac{α}2-6Gal{β}1-4GlcNAc human-type influenza receptor
R. Kadirvelraj *et al.*, *Glycobiology* **2011**, *21*, 973.

Recombinant *Laetiporus sulphureus* lectin N-Terminal Domain (= rLSL-N) expressed in *Escherichia coli* [R0226]



Reference

Structural analysis of the *Laetiporus sulphureus* hemolytic pore-forming lectin in complex with sugars
J. M. Mancheño *et al.*, *J. Biol. Chem.* **2005**, *280*, 17251.

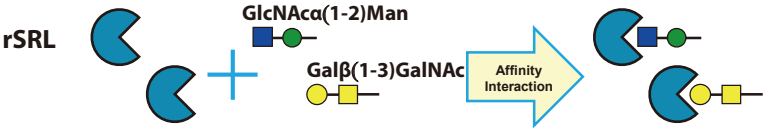
Recombinant *Marasmius oreades* agglutinin (= rMOA) expressed in *Escherichia coli* [R0227]

References

Cloning, expression, and characterization of the Galα1,3Gal high affinity lectin from the mushroom *Marasmius oreades*
R. P. Kruger *et al.*, *J. Biol. Chem.* **2002**, *277*,15002.

Structural characterization of a lectin from the mushroom *Marasmius oreades* in complex with the blood group B trisaccharide and calcium
E. M. Grahn *et al.*, *J. Mol. Biol.* **2009**, *390*, 457.

Recombinant *Sclerotium rolfsiilectin* (= rSRL) expressed in *Escherichia coli* [R0228]

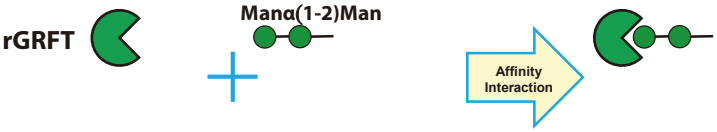


References

Carbohydrate specificity of a lectin isolated from the fungus *Sclerotium rolfsii*
A. M. Wu *et al.*, *Life Sci.* **2001**, *69*, 2039.

Structural basis for the carbohydrate recognition of the *Sclerotium rolfsiilectin*
D. D. Leonidas *et al.*, *J. Mol. Biol.*, **2007**, *368*, 1145.

Recombinant *Griffithsiasp.* lectin (= rGRFT) expressed in *Escherichia coli* [R0229]

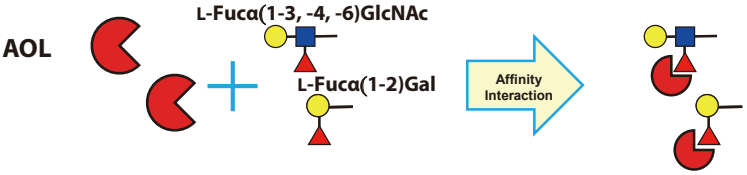


References

Isolation and characterization of griffithsin, a novel HIV-inactivating protein, from the red alga *Griffithsia* sp
T. Mori *et al.*, *J. Biol. Chem.* **2005**, *280*, 9345.

Crystallographic studies of the complexes of antiviral protein griffithsinwith glucose and *N*-acetylglucosamine
N. E. Ziółkowska *et al.*, *Protein Sci.* **2007**, *16*, 1485.

Lectin, Fucose specific (= AOL) from *Aspergillus oryzae* (5mg/mL, PBS pH6.5) [L0169]



References

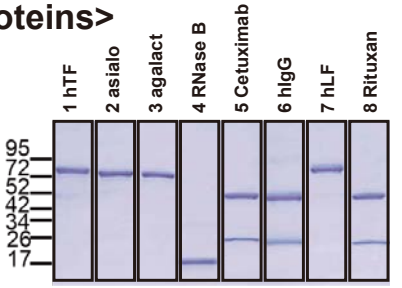
Molecular cloning and overexpression of *fleA* gene encoding a fucose-specific lectin of *Aspergillus oryzae*,
H. Ishida, *et al.*, *Biosci. Biotechnol. Biochem.* **2002**, *66*, 1002.

Carbohydrate binding specificity of a fucose-specific lectin from *Aspergillus oryzae*: a novel probe for core fucose,
K. Matsumura *et al.*, *J. Biol. Chem.* **2007**, *282*, 15700.

For Lectin-staining and Lectin-blotting
Biotinylated Recombinant Lectins

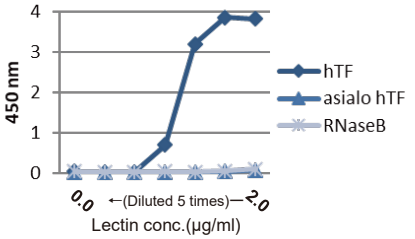
<Ex. Detection for glycoproteins>

SDS-PAGE
(5-20% gradient gel,
Ponceau staining)

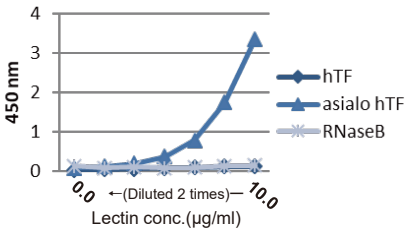


ELISA
(antigen 100 ng/well)
Detection: Streptavidin-HRP 1:5000

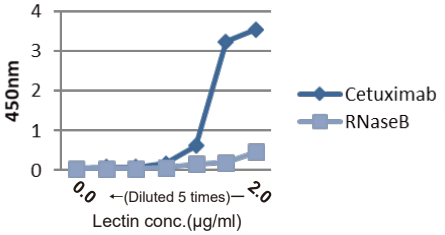
rPSL1a-Biotin [R0230]



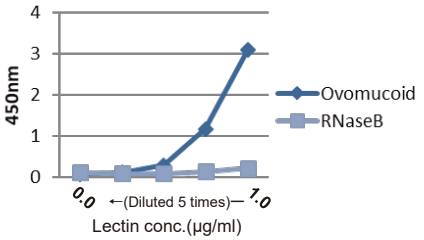
rLSL-N-Biotin [R0231]



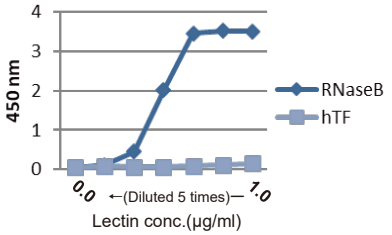
rMOA-Biotin [R0232]



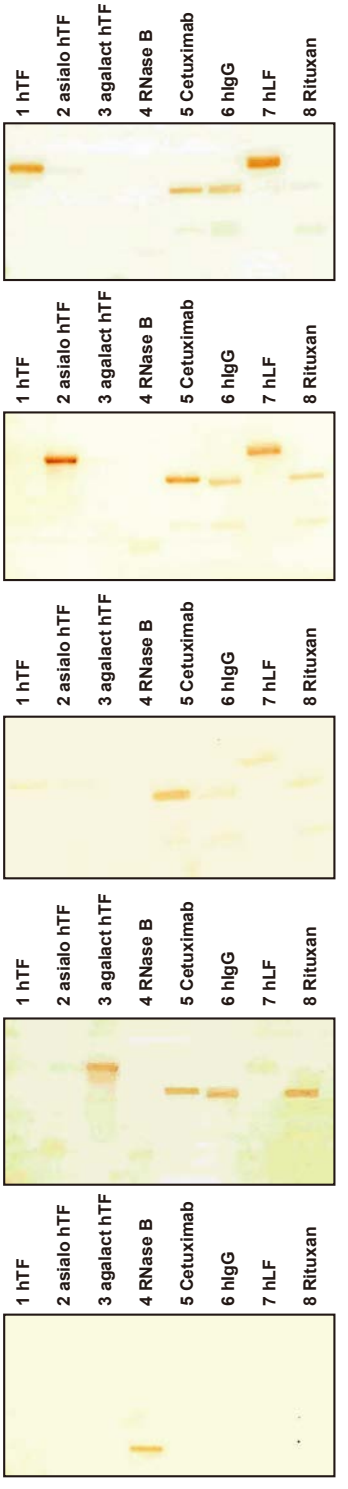
rSRL-Biotin [R0233]



rGRFT-Biotin [R0234]

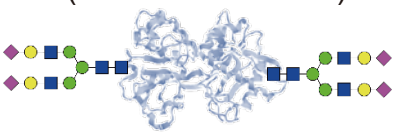


Western blotting (PVDF membrane)

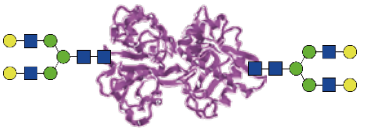


Glycoproteins

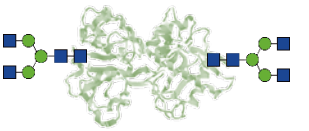
1 hTF (human Transferrin)



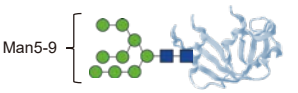
2 asialo hTF



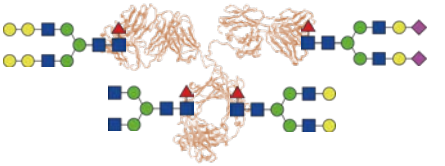
3 agalacto hTF



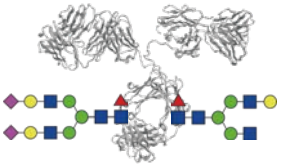
4 RNaseB



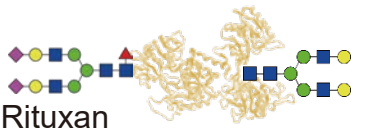
5 Cetuximab



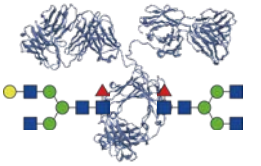
6 hIgG (human Immunoglobulin G)



7 hLF (human Lactoferrin)



8 Rituxan



Please note that oligosaccharide structures of glycoproteins indicated here are not limited to this notation because it shows heterogeneous oligosaccharide-epitopes for convenience.

Elution Sugars for LecBeads (Inhibition sugars, Hapten sugars)

[α(2-6)Sia]

Sialylglycopeptide	10mg [S0523]
Neu5Acα(2-6) *N*-Glycan	1mg [N1065]
Disialyloctasaccharide	10mg [D4065]
Neu5Acα(2-6)Galβ(1-4)GlcNAc-β-*p*NP	2mg [N0856]
Neu5Acα(2-6)Galβ(1-4)GlcNAc-β-ethylamine	5mg [N0950]
6'-Sialyllactose Sodium Salt	20mg / 100mg [S0886]
Neu5Acα(2-6)Galβ MP Glycoside	10mg / 50mg [N0792]

[βGal]

G2 Glycan	1mg [G0487]
G2-peptide	5mg [G0466]
Galβ(1-4)GlcNAcβ(1-3)Galβ(1-4)Glc-β-*p*NP	Please contact us. [G0351]
D-(+)-Lactose Monohydrate	25g / 500g [L0008]

[αGal]

Galα(1-3)Gal-β-MP	50mg [G0461]
D-(+)-Melibiose Monohydrate	1g / 10g [M0050]
D-(+)-Raffinose Pentahydrate	25g [R0002]

[GlcNAc]

G0 Glycan	Please contact us. [G0484]
***N*-Acetyl-D-glucosamine**	25g / 100g / 500g [A0092]

[Core1]

Galβ(1-3)GalNAc	Please contact us. [G0439]
Galβ(1-3)GalNAc-α-*p*NP	5mg [G0375]

[Man]

D-(+)-Mannose	25g / 100g / 500g [M0045]
Methyl α-D-Mannopyranoside	25g / 250g [M0368]

[Fuc]

L-(-)-Fucose	1g / 10g [F0065]

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