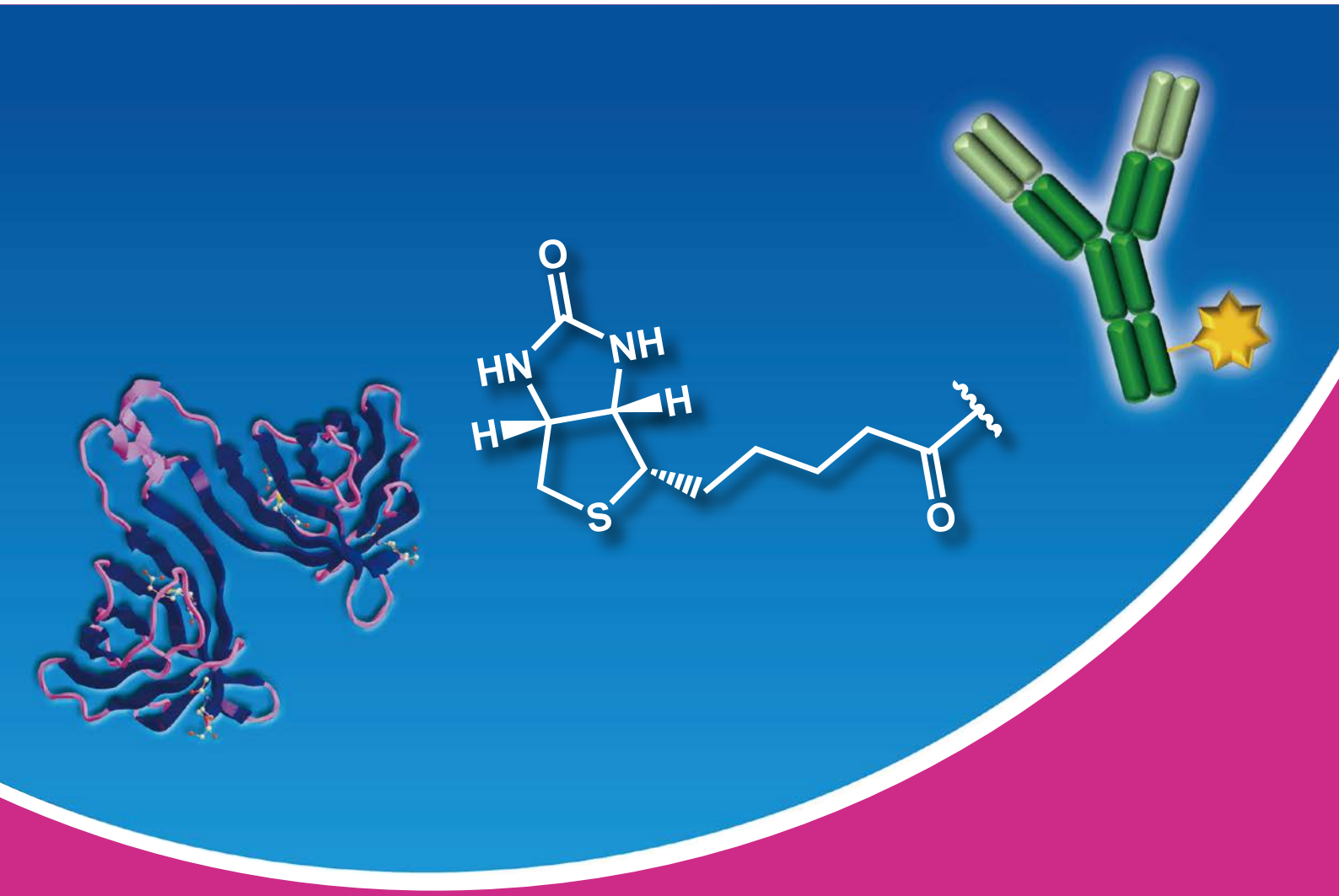
LIFE SCIENCE

TCI

Bioconjugation Reagents

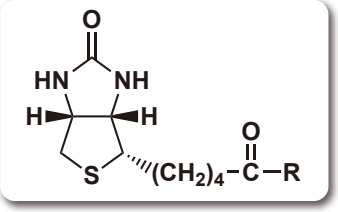


Bioconjugation is the formation of complexes by chemically bonding functional molecules to biomolecules such as DNA, RNA, proteins, lipids and sugars under mild conditions. The bioconjugated complexes are used to develop new methods, for example in drug discovery, ligand binding assays, disease diagnosis, and high-throughput screening. There have been many recent reports of the chemical modification of biomolecules with non-natural bioorthogonal functional groups such as azide.

Biotinylation Reagents

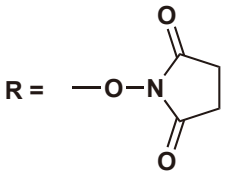
The avidin-biotin system is widely used for bioanalysis and bioassays including flow cytometry, ELISA, immunohistochemical staining, western blotting and others. Biotin labeling (biotinylation) is also commonly used for conjugating proteins, especially antibodies, and other various molecules. Biotinylation is one of the most essential methods in the field of immunoassay where antigens are detected using antibodies. Streptavidin is a protein from the avidin family having extraordinarily high affinity for biotin, in fact, the interaction of biotin with streptavidin is among the strongest non-covalent affinities known in nature. In order to detect the biotinylated substance, modification of streptavidin with fluorescent label or enzyme is required. The biotinylated substance and the labeled-streptavidin are used in various assays based on the avidin-biotin system.

for Amino Group

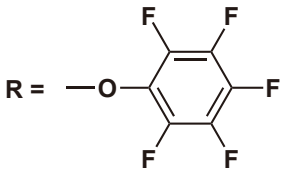


R = —OH

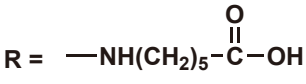
100mg / 1g / 5g
[B0463]



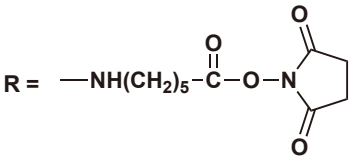
100mg / 1g
[S0491]



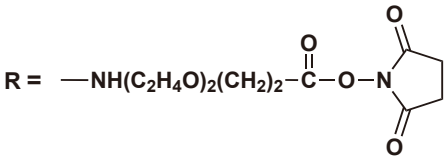
50mg / 250mg
[B3173]



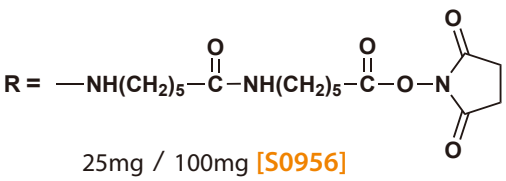
100mg
[B2433]



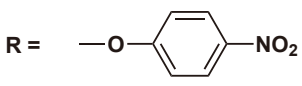
20mg / 100mg
[S0490]



25mg / 100mg [S0955]
(2mg×5)/set [B6097]

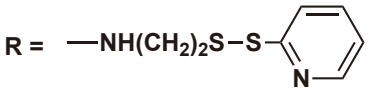


25mg / 100mg [S0956]
(2mg×5)/set [B6096]

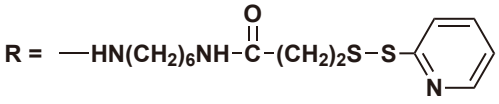


200mg
[B4009]

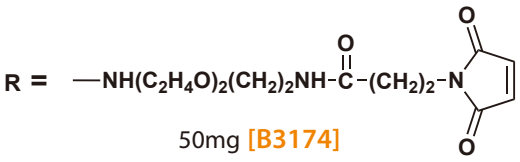
for Thiol Group

R = 

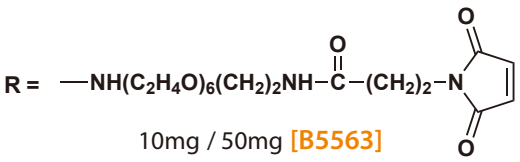
10mg / 50mg [P2471]

R = 

New 25mg / 100mg [B5749]

R = 

50mg [B3174]

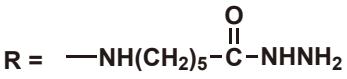
R = 

10mg / 50mg [B5563]

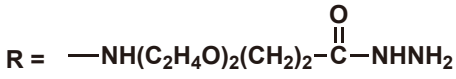
for Aldehyde or Carbonyl Group

R = $-NHNH_2$

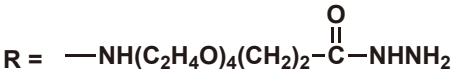
25mg / 100mg [B2431]

R = 

25mg / 100mg [H1071]

R = 

10mg / 50mg [B5577]

R = 

10mg / 50mg [B5578]

for Carboxyl Group

R = $-NH(C_2H_4O)_2(CH_2)_2NH_2$

25mg / 100mg [B3171]

R = $-NH(C_2H_4O)_4(CH_2)_2NH_2$

10mg / 50mg [B5560]

R = $-NH(C_2H_4O)_3(CH_2)_2NH_2$

25mg / 100mg [B3172]

R = $-NH(C_2H_4O)_{11}(CH_2)_2NH_2$

10mg / 50mg [B5565]

for Click Chemistry

R = $-NH(C_2H_4O)_4(CH_2)_2-N_3$

100mg [B5546]

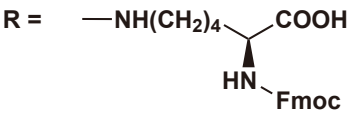
R = $-NH(CH_2)_3-N_3$

100mg [A2524]

R = $-NH(C_2H_4O)_3(CH_2)_2-N_3$

100mg [A2523]

for Other

R = 

200mg / 1g [F1042]

Desthiobiotinylation Reagent

Azide-PEG$_3$-Desthiobiotin 10mg [A3202]

New **Hydrazide-PEG$_4$-Desthiobiotin** 25mg [H1667]

Avidins

Streptavidin from *Streptomyces avidinii*	1mg/vial [S0951]
Streptavidin HRP Conjugate	0.1mg/vial [S0972]
Streptavidin FITC Conjugate	0.1mg/vial [S0966]
Streptavidin R-PE Conjugate	0.1mg/vial [T3885]
Streptavidin DTBTA-Eu^{3+} Conjugate	0.1mg/vial [S0993]
Streptavidin Maleimide Conjugate	0.5mg/vial [T3531]

*S0972, S0966, T3885, S0993 and T3531 are unavailable in China.

Biotin Conjugates

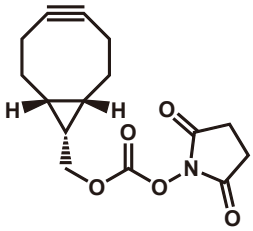
Goat Anti-Mouse IgG Biotin Conjugate	0.1mg/vial [G0387]
Goat Anti-Mouse IgM Biotin Conjugate	0.1mg/vial [G0432]
Goat Anti-Rabbit IgG Biotin Conjugate*	0.1mg/vial [G0597]
Sheep Anti-Chicken IgY Biotin Conjugate	0.1mg/vial [H1619]
Mouse Anti-Human IgG Fc Biotin Conjugate	0.1mg/vial [M3053]
Anti-Protein A Chicken Polyclonal Antibody Biotin Conjugate	0.05mg/vial [A3045]
Anti-6xHis Monoclonal Antibody (6A12) Biotin Conjugate	0.05mg/vial [A3010]
Anti-Endo-M Polyclonal Antibody Biotin Conjugate	0.1mg/vial [A2959]
Anti-αGal Polyclonal Antibody Biotin Conjugate	0.05mg/vial [A3144]
Anti-NeuGc Polyclonal Antibody Biotin Conjugate	0.05mg/vial [A3294]
Anti-Gb_3 Monoclonal Antibody Biotin Conjugate	0.05mg/vial [A2822]
Anti-GST Monoclonal Antibody Biotin Conjugate	0.05mg/vial [A3226]
Protein A Biotin Conjugate	1mg/vial [P2407]
AOL (*Aspergillus oryzae* L-fucose-specific lectin)-Biotin Conjugate	1mL [A2659]

*G0387, G0432, G0597, H1619, A3045, A3144 and A3294 are unavailable in the U.S. and China.
*M3053, A2959, A2822, A3226, and P2407 are also unavailable in China.
*G0597 is the successor to Anti-Rabbit IgG Biotin Conjugate (Product Number: G0389). Please use G0597 alternatively if you have used G0389.

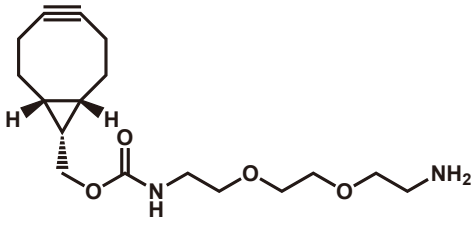
Crosslinkers for Copper-free Click Chemistry

Click reaction to azides proceeds without copper(I) species because these reagents have a strained structure with cyclooctyne.

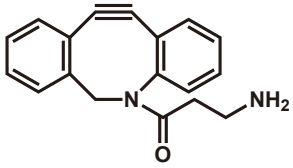
BCN-OH
100mg
[B5467]



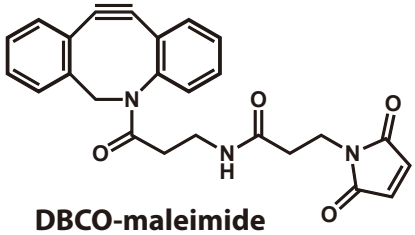
BCN-CO-NHS
10mg / 100mg
[B6275]
(2mgx5)/set
[B6215]



BCN-POE$_3$-NH$_2$
25mg / 100mg
[B4062]



DBCO-amine
25mg / 100mg
[A2763]



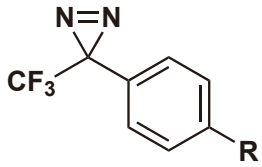
DBCO-maleimide
25mg
[D4739]
(2mgx5)/set
[D5849]

*A2763, D4739 and D5849 are unavailable in the U.S.

Please inquire for pricing and availability of listed products to our local sales representatives.

Photo-reactive Crosslinkers

Phenyldiazirines



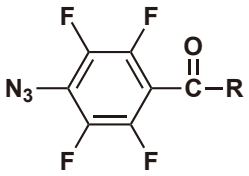
R = CH_2OH [T2818]
CH_2Br [T2819]
COOH [T2820]
$CH_2NH_2 \cdot HCl$ [T3448]

Phenyldiazirine generates a carbene unit by UV irradiation (<360 nm). Phenylcarbene can crosslink by short-time irradiation
due to higher reactivity than nitrenes. Phenylcarbene is inactivated by water when neighboring target molecules are absent, and thus does not lead to non-specific crosslinking.

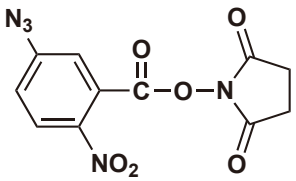
4-[3-(Trifluoromethyl)-3*H*-diazirin-3-yl]benzyl Alcohol	200mg / 1g [T2818]
4-[3-(Trifluoromethyl)-3*H*-diazirin-3-yl]benzyl Bromide	200mg / 1g [T2819]
4-[3-(Trifluoromethyl)-3*H*-diazirin-3-yl]benzoic Acid	200mg / 1g [T2820]
4-[3-(Trifluoromethyl)-3*H*-diazirin-3-yl]benzylamine Hydrochloride	200mg / 1g [T3448]

Phenylazides

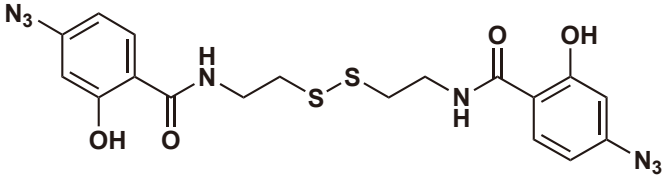
Phenylazide generates a nitrene by UV irradiation (<300 nm). It is noted that azido groups tend to have less harmuful effect on target analyte. Activation of the nitrene requires a shorter wavelength of UV light, and potential protein denaturation during long-period irradiation should be taken into consideration.



R = OH [A2674]
NHS [S0952]



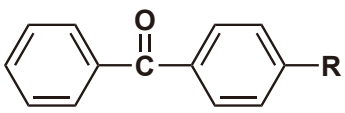
[S0860]



[B3790]

4-Azido-2,3,5,6-tetrafluorobenzoic Acid	1g [A2674]
4-Azido-2,3,5,6-tetrafluorobenzoic Acid *N*-Succinimidyl Ester	200mg / 1g [S0952]
5-Azido-2-nitrobenzoic Acid *N*-Succinimidyl Ester	10mg [S0860]
Bis[2-(4-azidosalicylamido)ethyl] Disulfide	10mg [B3790]

Benzophenones



R = CO-NHS [S0863]
R = maleimide [M3259]

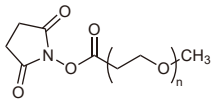
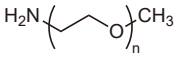
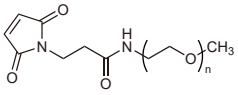
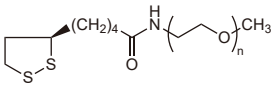
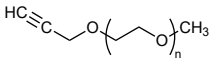
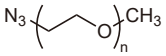
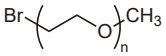
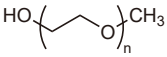
Benzophenone excited by UV irradiation (near 360 nm) to induce hydrogen abstraction from target molecules. The reaction efficiency remains high despite this due to the reverseability of the excited state. Additionally, photoexcited benzophenone is not water-reactive.

4-Benzoylbenzoic Acid *N*-Succinimidyl Ester	200mg / 1g [S0863]
New **4-(*N*-Maleimido)benzophenone**	50mg / 250mg [M3259]

PEGylation Reagents

Applicable to the preparation of PEGylated antibodies, antibody-drug conjugates, etc.

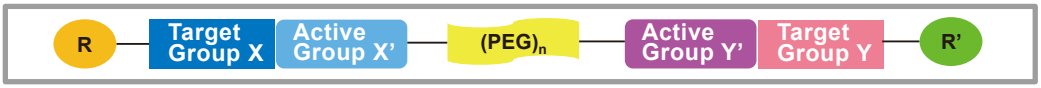
Selection Guide

Target Group	PEGylation Reagents		
Amino	NHS Ester — $(PEG)_n$ 	**n=4**	25mg [M2186]
		n=8	25mg [M2187]
		n=12	25mg [M2188]
Carboxyl	Amino Group — $(PEG)_n$ 	**n=4**	100mg [M2501]
		n=8	50mg / 250mg [O0457]
		n=24	25mg / 100mg [M3048]
Thiol	Maleimide Group — $(PEG)_n$ 	**n=12**	25mg [M3051]
		n=24	25mg [M3052]
	Disulfide Group — $(PEG)_n$ 	**n=4**	100mg [T3199]
Azido	Alkynyl Group — $(PEG)_n$ 	**n=4**	25mg / 100mg [P2249]
Alkyne / Cyclooctyne	Azido Group — $(PEG)_n$ 	**n=4**	25mg / 100mg [A2728]
		n=8	25mg / 100mg [A2727]
		n=12	25mg [M3049]
		n=24	25mg / 100mg [M3050]
Amino, etc.	Bromo Group — $(PEG)_n$ 	**n=2**	5g / 25g [B4736]
		n=3	5g / 25g [D3831]
		n=4	5g / 25g [T2634]
Other	Hydroxy Group — $(PEG)_n$ 	**n=2**	25mL / 500mL [M0537]
		n=3	25mL / 500mL [T0709]
		n=4	5g / 25g [T1372]
		n=5	1g / 5g [P1159]
		n=6	1g / 5g / 25g [H0808]
		n=7	1g / 5g [H1046]
		n=8	1g / 5g [O0296]
		n=9	500mg / 1g [N0699]
		n=12	100mg / 1g [D2904]

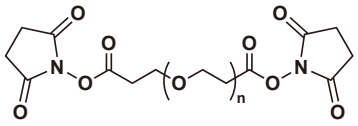
For Laboratory Use, Research Purposes Only.

PEG Linkers

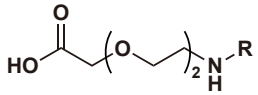
selection guide



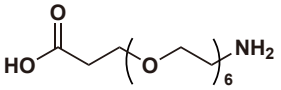
Target Group X	Target Group Y	PEG Linkers	
Amino	Amino	NHS Ester-$(PEG)_n$-NHS Ester	[B3728](PEG5) [B4688](PEG9)
	Carboxyl	Carboxyl Group-$(PEG)_n$-Amino Group	[A3120](PEG2) [A2526](PEG6)
		Carboxyl Group-$(PEG)_n$-Boc Amino Group	[B5665](PEG4) [B5651](PEG6)
		Carboxyl Group-$(PEG)_n$-Fmoc Amino Group	[F0719](PEG2) [F0999](PEG2) [F1183](PEG6) [F1238](PEG12)
	Thiol	NHS Ester-$(PEG)_n$-Maleimide Group	[M3079](PEG2)
		Carboxyl Group-$(PEG)_n$-Maleimide Group	[M2666](PEG4)
		NHS Ester-$(PEG)_n$-Protected Thiol Group	[N1119](PEG4)
	Alkyne Cyclooctyne	NHS Ester-$(PEG)_n$-Azide Group	[A2388](PEG4)
		Carboxyl Group-$(PEG)_n$-Azide Group	[A3224](PEG2) [A2293](PEG3)
	Azido	Carboxyl Group-$(PEG)_n$-Alkyne	[P2283](PEG5)
Carboxyl	Carboxyl	Amino Group-$(PEG)_n$-Amino Group	[B1431](PEG2) [D3664](PEG3) [T3198](PEG4) [D1571](PEG3)
	Azido	Amino Group-$(PEG)_n$-Alkyne	[P2225](PEG2)
		Amino Group-$(PEG)_n$-Cyclooctyne	[B4062](PEG2)
	Alkyne Cyclooctyne	Amino Group-$(PEG)_n$-Azide Group	[A3130](PEG2) [A2363](PEG3) [A3004](PEG4) [A3007](PEG11)
Other	Azide	Hydroxy Group-$(PEG)_n$-Alkyne	[D4580](PEG2) [T3114](PEG3)
	Alkyne / Cyclooctyne	Hydroxy Group-$(PEG)_n$-Azide Group	[A2294](PEG3) [A2500](PEG4)



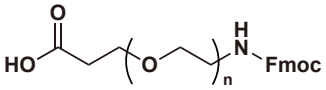
n=5 25mg / 100mg / 500mg [B3728]
n=9 25mg / 100mg [B4688]



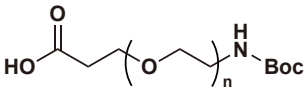
R=H 250mg / 1g [A3120]
R=Fmoc 200mg / 1g [F0719]



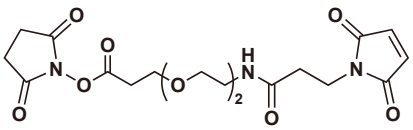
100mg / 500mg [A2526]



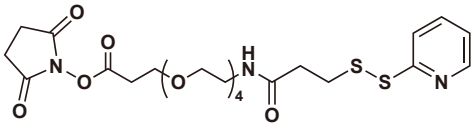
n=2 200mg / 1g [F0999]
n=6 250mg [F1183]
n=12 100mg [F1238]



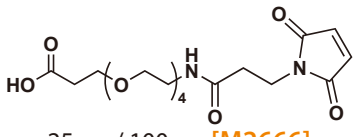
n=4 250mg / 1g [B5665]
n=6 250mg [B5651]



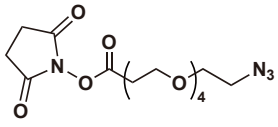
50mg / 250mg [M3079]



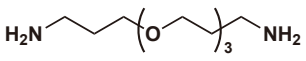
100mg [N1119]



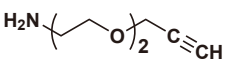
25mg / 100mg [M2666]



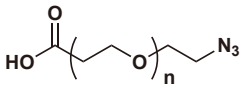
25mg [A2388]



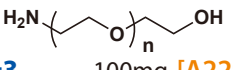
25mL / 100mL / 500mL [D1571]



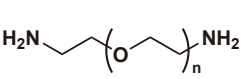
1g / 5g [P2225]



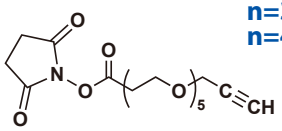
n=2 100mg [A3224]
n=3 1g [A2293]



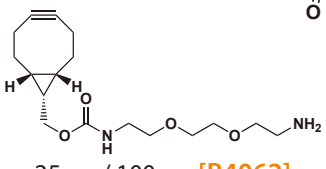
n=3 100mg [A2294]
n=4 100mg [A2500]



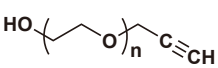
n=2 25g / 100g / 500g [B1431]
n=3 1g [D3664]
n=4 100mg [T3198]



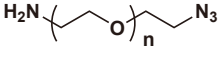
25mg [P2283]



25mg / 100mg [B4062]



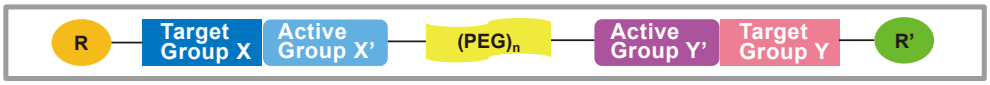
n=2 1g [D4580]
n=3 1g / 5g [T3114]



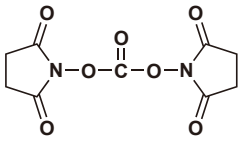
n=2 250mg / 1g [A3130]
n=3 200mg / 1g / 5g [A2363]
n=4 50mg / 250mg [A3004]
n=11 50mg / 250mg [A3007]

Bifunctional Linkers

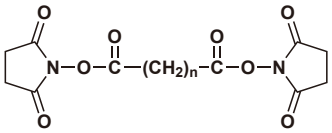
selection guide



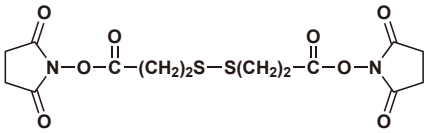
Target Group X	Target Group Y	Linkers	
Amino	Amino	NHS Ester-(Spacer)-NHS Ester	[D1662][D3895][D4019]
		NHS Ester-(Disulfide)-NHS Ester	[D2473]
		Carboxyl Group-(Disulfide)-Carboxyl Group	[D0945][D0947][D1757][D3670]
		Aldehyde Group-(Spacer)-Aldehyde Group	[G0067][G0068]
		Imide Ester-(Spacer)-Imide Ester	[A0806][P0892][S0246]
		Fluorobenzene-(Spacer)-Fluorobenzene	[D1649][D0536]
	Carboxyl	Carboxyl Group-(Spacer)-Amino Group	[G0099][A0180][A0282] [A0663][A0312][A0311][A0932]
		NHS Ester-(Spacer)-Boc Amino Group	[B5684]
	Thiol	NHS Ester-(Spacer)-Maleimide Group	[S0427][S0399][S0428][S0882] [S0853][S0883][S0398][S0861] [S0881]
		Carboxyl Group-(Spacer)-Maleimide Group	[M1962][M2337][M2338][M3143]
		Carboxyl Group-(Spacer)-Thiol Group	[M0052]
		NHS Ester-(Spacer)-Protected Thiol Group	[S0431][S0859][S0819]
		Carboxyl Group-(Spacer)-Disulfide	[L0058]
	Azido	Carboxyl Group-(Spacer)-Alkyne/Cyclooctyne	[P0497][H0882][U0054][P2341]
	Alkyne / Cyclooctyne	Carboxyl Group-(Spacer)-Azide Group	[A2729]
	Other	NHS Ester-(Spacer)-Acrylic Group	[S0814][S0812]
		NHS Ester-(Spacer)-Other Group	[S0852][S0844][S0893]
Carboxyl	Thiol	Amino Group-(Spacer)-Maleimide Group	[A2436]
		Amino Group-(Spacer)-Thiol Group	[A0648]
	Azido	Amino Group-(Spacer)-Alkyne/Cyclooctyne	[P0911][A2763]
	Alkyne / Cyclooctyne	Amino Group-(Spacer)-Azide Group	[A2738]
Aldehyde	Aldehyde	Hydrazide Group-(Spacer)-Hydrazide Group	[C0803][O0083][S0482] [A0170][A0746][S0224][D2342]
	Thiol	Hydrazide Group-(Spacer)-Maleimide Group	[M2703][M2735]
Thiol	Thiol	Maleimide Group-(Spacer)-Maleimide Group	[B3805][E0482][B1787]
		Maleimide Group-(Disulfide)-Maleimide Group	[B5699]
	Azido	Maleimide Group-(Spacer)-Alkyne/Cyclooctyne	[D4739][P2139]
Azide	Other	Alkyne-(Spacer)-Hydroxy Group	[P0536][B0799][P0817][H0687] [H1474][O0445][D3710][U0055]
		Cyclooctyne-(Spacer)-Hydroxy Group	[B5467]



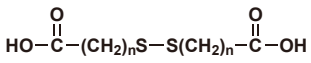
5g / 25g [D1662]



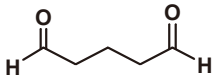
n=6 1g / 5g [D3895]
n=8 1g / 5g [D4019]



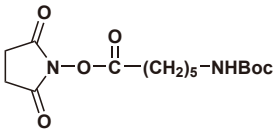
200mg / 1g / 5g [D2473]



n=1 25g [D0945]
n=2 25g / 100g / 500g [D0947]
n=3 (>95.0%) 5g / 25g [D1757]
n=3 (>99.0%) 1g [D3670]

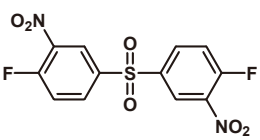


25mL / 500mL [G0067]
25mL / 500mL [G0068]

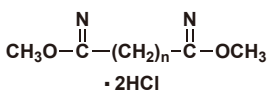


1g / 5g [B5684]

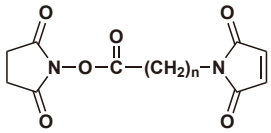
5g / 25g [D1649]



10g [D0536]

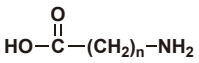


n=4 5g / 25g [A0806]
n=5 5g / 25g [P0892]
n=6 5g / 25g [S0246]

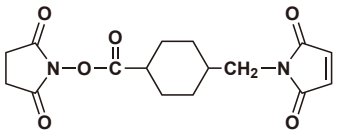


n=2 100mg / 1g / 5g [S0427]
n=3 100mg / 1g / 5g / 25g [S0399]
n=5 100mg / 1g / 5g / 25g [S0428]
n=10 20mg / 100mg [S0882]

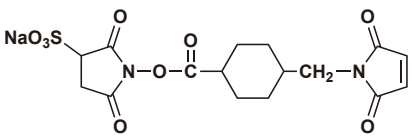
Please inquire for pricing and availability of listed products to our local sales representatives.



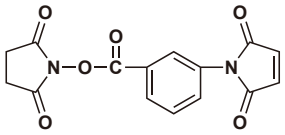
n=1	25g / 500g [G0099]
n=2	25g / 500g [A0180]
n=3	25g / 100g / 500g [A0282]
n=4	5g / 25g [A0663]
n=5	25g / 500g [A0312]
n=6	1g / 5g / 25g [A0311]
n=11	25g / 500g [A0932]



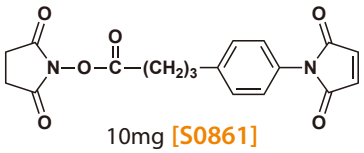
100mg / 1g [S0853]



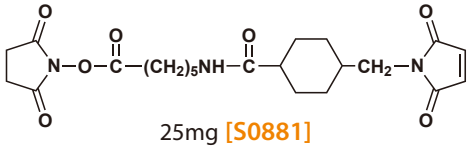
20mg / 100mg [S0883]



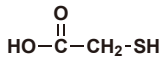
100mg / 1g [S0398]



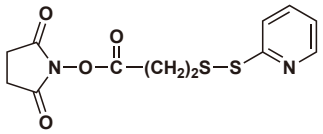
10mg [S0861]



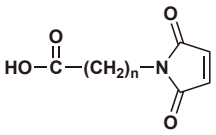
25mg [S0881]



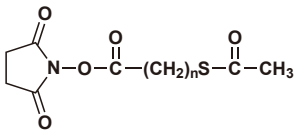
25g / 500g [M0052]



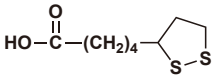
100mg / 250mg / 1g / 5g [S0819]



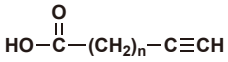
n=1	50mg / 250mg [M3143]
n=2	200mg / 1g / 5g [M1962]
n=3	1g / 5g [M2337]
n=5	1g / 5g [M2338]



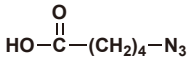
n=1	1g / 5g [S0431]
n=2	100mg [S0859]



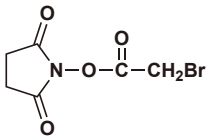
5g / 25g [L0058]



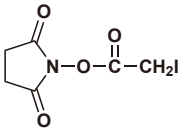
n=0	5g / 25g [P0497]
n=2	1g / 5g [P2341]
n=3	5g / 25g [H0882]
n=8	1g / 5g [U0054]



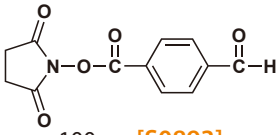
200mg [A2729]



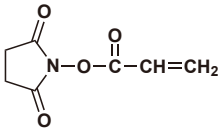
100mg [S0852]



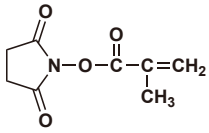
100mg [S0844]



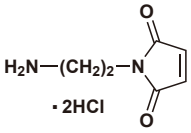
100mg [S0893]



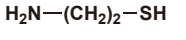
5g / 25g [S0814]



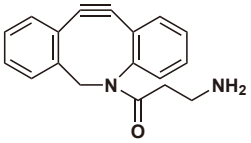
5g / 25g [S0812]



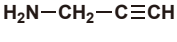
200mg / 1g [A2436]



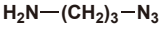
25g / 500g [A0648]



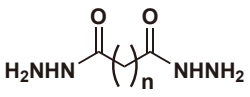
25mg / 100mg [A2763]



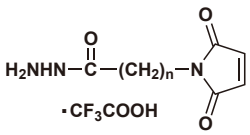
5mL / 25mL [P0911]



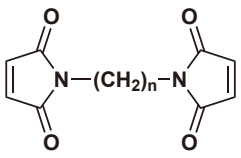
100mg [A2738]



n=0	25g / 250g [O0083]
n=2	25g / 100g / 500g [S0482]
n=4	25g / 250g [A0170]
n=7	25g [A0746]
n=8	25g / 500g [S0224]
n=10	25g / 500g [D2342]



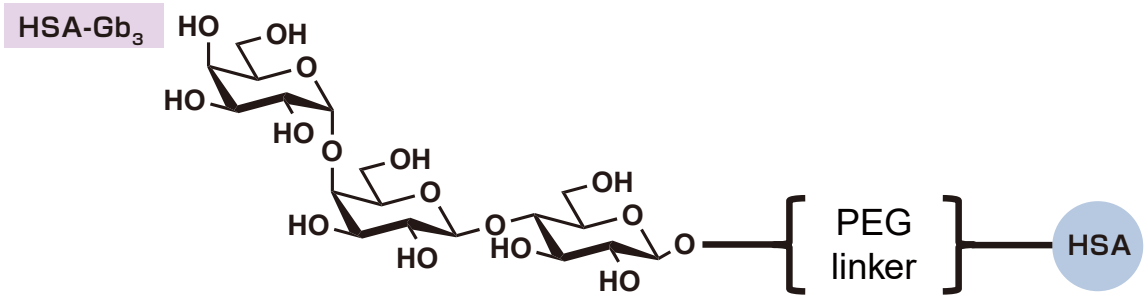
n=2	250mg / 1g [M2703]
n=5	50mg / 250mg [M2735]



n=2	100mg [E0482]
n=4	100mg / 1g [B3805]
n=6	100mg [B1787]

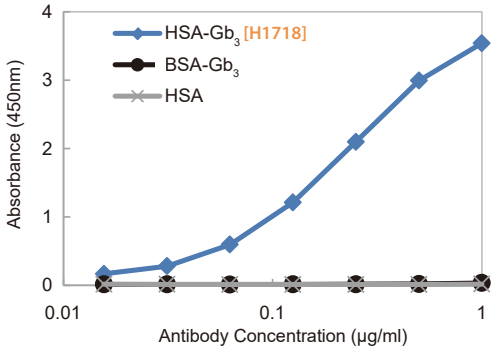
Protein-Oligosaccharide Conjugates

TCI offers carbohydrate-conjugated human serum albumin (HSA) which is manufactured using high-purity synthesized carbohydrates. Several sugar-conjugates are available, and it is also possible to manufacture the sugar-conjugates according to customer specifications. For more details on the products and contracts, please contact us.



HSA-Gb$_3$	0.1mg/vial [H1718]
HSA-Lewis X	0.1mg/vial [H1719]
HSA-Sialyl Lewis X	0.1mg/vial [H1730]

HSA-Gb$_3$ is a useful tool for the discovery and characterization of globotriose (Gb$_3$)-binding substances.



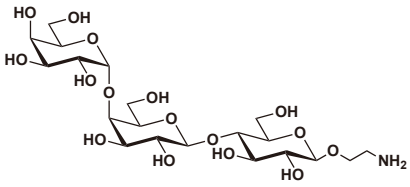
Anti-Gb$_3$ monoclonal antibody satisfactorily reacts with HSA-Gb$_3$, but not with BSA conjugated to Gb$_3$ by reductive amination.
Reductive amination eliminates the epitope by opening the pyranose ring at the reducing end. We offer closed-ring glycoconjugates via PEG linkers as useful tools for discovery and characterization of carbohydrate-binding substances.

These antigens were coated on ELISA plate and reacted with Anti-Gb$_3$ Monoclonal Antibody [A2506] at the appropriate time. Subsequently, the 1st antibody was detected using suitable secondary antibodies.

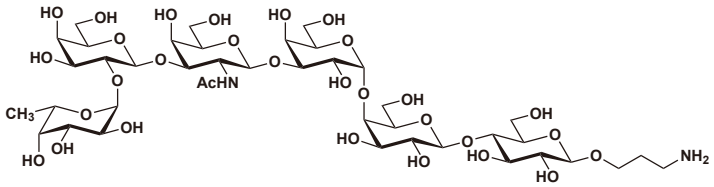
Related Products

Amino glycoside

Gb$_3$-β-ethylamine [G0402]

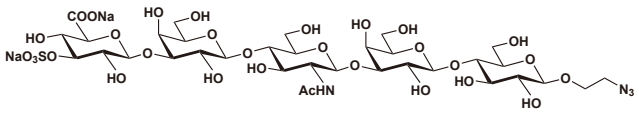


Globo-H-PrNH$_2$ [G0447]

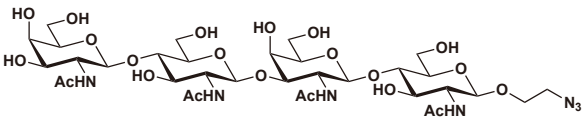


Azide glycoside

HNK-1 Ethylazide [H1333]



LacDiNAc Dimer Ethylazide [L0237]



Please inquire for pricing and availability of listed products to our local sales representatives.

Pre-Weighed Bioconjugation Reagents

for Biotin Conjugation

Biotin-LC-LC-NHS (2mg×5) 1set [B6096]
Biotin-PEG$_2$-NHS (2mg×5) 1set [B6097]

Applications

Preparation :

Use of a 10 mM biotinylation solution is recommended. In order to efficiently biotinylate a sample, biotinylation solution should be used at a 15-fold molar excess over the amount of amine-containing protein. Make sure to calculate the 10 mM biotinylation solution amount (see example below).

Calculate : A µL of 10 mM biotinylation solution for biotinylation 2 mg IgG (150,000 M.W.)
2 [mg IgG] x 10^{-3} [g/mg] x 1/150,000 [mol/g] x 15 [fold]
= A [µL of 10 mM biotinylation solution] x 10^{-6} [L/µL] x 10 [mmol/L] x 10^{-3} [mol/mmol]

A = 20 [µL of 10 mM biotinylation solution]

Direction for Use :

1. Bring each product to room temperature.
2. Dissolve 2 mg of Biotin-LC-LC-NHS [B6096] in 350 µL of DMSO or DMF or 2 mg of Biotin-PEG$_2$-NHS [B6097] in 400 µL of PBS to prepare a 10 mM biotinylation solution.
3. Dissolve the sample (1-10 mg/mL) in an appropriate buffer such as PBS. Do not use buffers including amines (such as Tris).
4. Add A µL of 10 mM biotinylation solution to the sample solution and incubate the mixed solution for 30 min at room temperature.
5. Remove unreacted and hydrolyzed reagent using desalting column or dialysis methods.

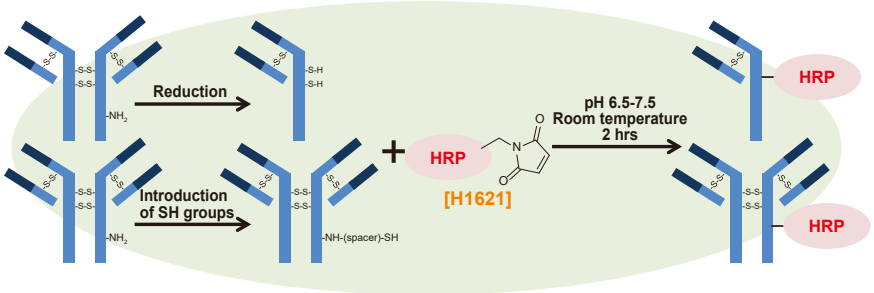
for Protein Conjugation via Thiol Groups

Bovine Serum Albumin Maleimide Conjugate (1mg×3) 1set [B5944]
Horseradish Peroxidase Maleimide Conjugate (0.5mg×3) 1set [H1621]
Streptavidin Maleimide Conjugate (0.5mg×1) 1set [T3531]

*B5944 is unavailable in the U.S. and China. H1621 and T3531 are also unavailable in China.

Application : HRP-labelling of an antibody with H1621

In case of antibodies without free thiol (SH, sulfhydryl) groups, disulfide moieties in proteins can be reduced by a reductant such as DTT [D3647] or 2-MEA [A0296] to reveal free thiols.
Furthermore, thiol group can be introduced to primary amines by adding SATA [S0431], SATP [S0859] or 2-Iminothiolane.



Example protocol for antibody conjugation starts from a reduction of native disulfide bonds in the Goat Anti-Mouse IgG, followed by labeling with the HRP using H1621. For more information, see the product detail page of H1621 on TCI website.

Protocol

1) Add DTT to a final concentration equal to 3 mole equivalents per mole equivalent of antibody present.
2) Incubate for 90 minutes at 37 °C.
3) Purify the reduced IgG by gel filtration or ultrafiltration, dialysis.
4) Add equal amount of H1621 (by weight) to a purified antibody and Incubate for 2 hours at room temperature (25 °C).

Functional Group Forming Agents and Condensing Agents

Thiol Group Formation (Disulfide Reduction) Reagents

2-Aminoethanethiol Hydrochloride (= 2-MEA)	25g / 100g / 500g	[A0296]
DL-Dithiothreitol (= DTT)	1g / 5g / 25g	[D1071]
2-Mercaptoethanol (= 2-ME)	25g / 500g	[M0058]
Cystamine Dihydrochloride	25g / 100g / 500g	[C0875]
Tris(2-carboxyethyl)phosphine Hydrochloride (= TCEP)	1g / 5g / 25g	[T1656]

Thiol Group Introduction Reagents

N-Succinimidyl *S*-Acetylthioglycolate (= SATA)	1g / 5g	[S0431]
N-Succinimidyl 3-(Acetylthio)propionate (= SATP)	100mg	[S0859]
N-Acetyl-DL-homocystein Thiolactone	5g / 25g	[A2144]

Disulfide Bond Formation Reagents

5,5'-Dithiobis(2-nitrobenzoic Acid) (= DTNB)	1g / 5g / 25g	[D0944]

Carboxyl Group Introduction Reagents

4-(*N*-Maleimidomethyl)cyclohexane-1-carboxylic Acid	1g / 5g	[M3218]
trans-4-(*N*-Maleimidomethyl)cyclohexane-1-carboxylic Acid	1g / 5g	[M3219]
Succinic Anhydride	25g / 500g	[S0107]

N-Hydrosuccinimide (NHS) Esterification Reagents

N-Hydroxysuccinimide (= NHS)	25g / 100g / 500g	[H0623]
N-Hydroxysulfosuccinimide Sodium Salt (= SulfoNHS)	200mg / 1g	[H1304]
N-Succinimidyl Trifluoroacetate (= TFA-NHS)	1g / 5g	[S0915]

Imine Reducing Agents

Sodium Cyanoborohydride	5g / 25g / 250g	[S0396]

Condensing Agents

1,1'-Carbonyldiimidazole (= CDI)	5g / 25g / 250g	[C0119]
1-Cyclohexyl-3-(2-morpholinoethyl)carbodiimide Metho-*p*-toluenesulfonate (= CMC)	5g / 25g	[C0793]
1-(3-Dimethylaminopropyl)-3-ethylcarbodiimide Hydrochloride (= EDC·HCl)	5g / 25g / 100g / 250g	[D1601]
1-(3-Dimethylaminopropyl)-3-ethylcarbodiimide (= EDC)	5g / 25g / 100g	[D4029]
4-(4,6-Dimethoxy-1,3,5-triazin-2-yl)-4-methylmorpholinium Chloride (= DMT-MM)	5g / 25g	[D2919]

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