

MABSOL® Biotinylated Proteins

Bring pre-labeled biotinylated proteins directly to your bench



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ACCO

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Introduction

Biotin is commonly used as a protein tag to facilitate the detection, purification, and immobilization of the proteins. The bond between biotin and its binding partner Avidin (or Streptavidin) is unique in the following ways.



- Strong (Ka of 10¹⁵ M⁻¹)
- Specific
- Multi-moiety
- Stable
- Minimal interference

With characteristics mentioned above, biotin-avidin (streptavidin) system is now considered a versatile independent technology in following applications.

Application



Biotinylated proteins can be used in ELISA as two-way antibodies for both capture and detection with high specificity and detection sensitivity.



Biotinylated proteins can be used along fluorophore-tagged SA to detect/isolate cells expressing particular surface markers.

Biopanning



It is a technique often used for the selection of phage displays during antibody drug development. Biotinylated proteins can be used with SA-coated magnetic beads/surface in biopanning with higher coating density and uniformed antigen presentation.



It is a standard method used by pharmaceutical researchers to study protein binding kinetics. Biotinylated proteins can be used along with Biacore Sensor Chip SA for SPR analysis with low baseline drift and low noise.

Immuno-capture and Enrichment



Biotinylated proteins can be used to isolate antibodies from plasma or other biological fluid for subsequent analyses with high sensitivity, and the processed sample can be easily analyzed in quantitative mass spectrometry.





Product Series

MABSOL[®] biotinylated protein collection includes two unique and complimentary product series, the PrecisionAvi series built upon the AviTag[™] technology, and the UltraLys series produced using the in-house developed chemical labeling method. These products are made with every attention to details.

PrecisionAvi Series

An exclusive collection of ready-to-use AviTag[™] biotinylated proteins

The products in this series are exclusively produced using the AviTag[™] technology. Briefly, a unique 15 amino acid peptide, the Avi tag, is introduced into the recombinant protein during expression vector construction. The single lysine residue in the Avi tag is enzymatically biotinylated by the *E. coli* biotin ligase BirA.

This single-point enzymatic labeling technique brings many advantages for commonly used binding assays.

- The biotinylation only happens on the lysine residue of Avi tag.
- NO interference with the target protein's natural binding activities.
- The protein orientation is uniform when immobilized on an avidin-coated surface.

UltraLys Series

A unique series of chemically labeled biotinylated proteins with ultra-sensitivity

The products in this series are produced using our in-house developed chemical labeling approach. The primary amines in the side chains of lysine residues and the N-terminus of protein are conjugated with biotins.

Higher detection sensitivity
In-house developed chemical labeling approach



Key Features

Closest to Natural Conformation and Modification

The production of our recombinant proteins including the biotinylated proteins is carried out using our proprietary HEKMax[®] expression platform. As expression hosts, the human HEK293 cells have a variety of advantages compared to other cell types as summarized in the table below.

Expression Systems	Folding	Phosphorylation	Proteolytic Processing	Glycosylation
E.Coli	+	N/A	N/A	N/A
Insect Cell	++	++	++	Poor
Plant Cell	+++	+++	++++	Poor
CHO Cell	++++	++++	++++	Non-Human Like
Human Cell	+++++	+++++	+++++	Human Authentic







High Bioactivity & Detection Sensitivity

The bioactivity of biotinylated proteins is determined both by the structure of the protein itself, and by the way how biotinylation is performed. For every single protein, we test multiple options of tags and biotinylation methods, and evaluate the products in a variety of binding assays. Only those with the best performance are selected for production. Figure 1 is an example of our internal evaluation experiments.



Fig. 1 Binding activity of different forms of biotinylated PD-1 evaluated in a functional ELISA against rhPD-L1 (Cat. No. PD1-H5258).

Our biotinylated proteins demonstrate high bioactivity and superb detection sensitivity in different application. In functional ELISA, the biotinylated human BCMA has high binding activity with BAFF as showed in figure 2. Figure 3 shows that the biotinylated PD-1 can be well applied to AlphaLISA to detect the binding activity with its ligand PD-L2. The figure 4 shows that the biotinylated protein can be easily used for determining the affinity between protein and therapeutic antibody in SPR assay. Also, the biotinylated proteins are often used in cell based assay, such as cytotoxicity assay and evaluation of CAR expression (Fig. 5 & Fig. 10).



Fig. 2 Immobilized Human BAFF, Fc Tag (Cat. No. BAF-H4268) at 5 μg/mL (100 μL/well) can bind Biotinylated Human BCMA, Fc Tag (Cat.No.BC7-H82F0) with a linear range of 0.12-1.95 ng/mL.

Fig. 3 Biotinylated Human PD-1(Cat. No. PD1-H82F1)at 1 μ g/mL (5 μ L/well) can bind Human PD-L2 (Cat. No. PD2-H5220) with a linear range of 0.02-0.625 μ g/mL.





• SPR



Fig. 4 Immobilized biotinylated human VEGF165 (Cat. No. VE5-H82Q0) on CM5 Chip via streptavidin, can bind Avastin with an affinity constant of 0.417 nM as determined in SPR assay (Biacore T200).

Cell based assay



Fig. 5 Recombinant human TNF-alpha (Cat. No. TNA-H82E3) induces cytotoxicity effect on the WEH1-13VAR cells in the presence of the metabolic inhibitor actinomycin D. The EC50 for this effect is 0.014-0.029 ng/ml. The result shows that the biotinylated human TNF-alpha is consistent with naked TNF-alpha in cytotoxicity assay.

Low Batch-to-Batch Variation

We routinely apply rigorous quality control measures to ensure consistent performance of our products. Newly produced products are subjected to side-by-side comparison with our internal standard in a variety of assays. Only those within an acceptable margin of difference are allowed to be released. As demonstrated in figure 6, three different batches of biotinylated hTNF-alpha (Cat. No. TNA-H82E3) are tested and compared using a standard ELISA analysis against Adalimumab, the result shows that the batch variation among the tested samples is negligible. The batch-to-batch conformance is also good as displayed in cell based assay (Fig. 7).



Fig. 6 In the above ELISA analysis, three different lots of biotinylated hTNF-alpha (Cat. No. TNA-H82E3) were used detect immobilized Adalimumab (0.5 μ g/ml). The result showed that the batch variation among the tested samples is negligible.



Fig. 7 Recombinant biotinylated human TNF-alpha (Cat. No. TNA-H82E3) induces cytotoxicity effect on the WEH1-13VAR cells in the presence of the metabolic inhibitor actinomycin D. The EC50 for this effect is 0.029-0.052 ng/ml.



Case Studies

SPR: Antibody Optimization with Biotinylated FcRn

The half-life and efficacy of a therapeutic antibody largely depends on its Fc fragment. To obtain candidate antibody with desired pharmaceutical properties, the interaction between Fc fragment and Fc receptors needs to be evaluated. SPR is a common assay used for determing binding affinity between Fc and Fc receptors.

Stable and efficient coating with less baseline drift present a major challenge in this approach. As shown here, the combo of ACROBiosystems' AviTag[™] biotin-labeled FcRn and GE's sensor Chip-SA delivers satisfactory result in a binding assay against Herceptin.



Biotinylated Human FcRn Heterodimer Protein SPR

Fig. 8 Immobilized Biotinylated Human FcRn, His Tag, Strep Tag (Cat. No. FCM-H82W4) on SA chip, can bind Herceptin with an affinity constant of 1.47 μM as determined in a SPR assay (Biacore T200).

Immuno-capture with Biotinylated TNF-alpha

TNF-alpha antibody is widely used in treating autoimmune diseases. In order to optimize the administration, it's very important to monitor the serum concentration of TNF-alpha antibody. Our collaborator AbSciex has shown that, using ACROBiosystems's biotinylated TNF-alpha (Cat. No. TNA-H821R), TNF-alpha antibody in the serum could be easily detected by immune-capture coupled with quantitative MS/MS.

Biotinylated TNF-alpha is first coupled to streptavidin coated magnetic beads, and then capture TNF-alpha antibody in the serum. After that, MS/MS is applied to quantify TNF-alpha antibody. Immuno-capture with biotinylated TNF-alpha significantly increases the sensitivity by ten folds.



Fig. 9 Chromatograms spiked Adalimumab in human plasma: blank plasma, 5, 50, and 500 ng/ml.

BIOSYSTEMS







Evaluation of CAR expression with Biotinylated CD19

The following case study was provided by our in-house R&D team. The data showed that the binding of biotinylated human CD19 (Cat. No. CD9-H8259) to anti-CD19 scFv-modified cells was specifically mediated by anti-CD19-CAR and CD19 interaction.



Fig. 10 293 cells were transfected with FCM63-scFv and RFP tag. 2x10⁵ of the cells were first incubated with A. Biotinylated protein control. B. Recombinant biotinylated human CD19 (Cat. No. CD9-H8259, 10 μg/ml). C. Recombinant biotinylated human CD19 (Cat. No. CD9-H8259, 10 μg/ml) and FMC63 (Mouse anti-CD19 antibody). FITC Streptavidin was used to analyse with FACS. RFP was used to evaluate CAR (FMC63-scFv) expression and FITC was used to evaluate the binding activity of recombinant biotinylated human CD19 (Cat. No. CD9-H8259).

Inhibitor Screening with Biotinylated PD-1

ACROBiosystems has developed a PD-1-PD-L1 inhibitor screening assay kit (Cat. No. EP-101) for rapid and high throughput screening of candidate inhibitory antibodies or small molecules of the PD-1 pathway.

This inhibitor screening ELISA pair is designed to facilitate the identification and characterization of new PD-1 pathway inhibitors. The assay takes advantage of our in-house developed binding of biotinylated human PD-1 to immobilized human PD-L1 in a functional ELISA assay, and employs a simple colorimetric sandwich ELISA platform. Briefly, we provide you with a human PD-1-Biotin protein, a human PD-L1 protein, an anti-PD-1 neutralizing antibody (as method verified Std.), and streptavidin-HRP reagent. Both biotinylated PD-1 and PD-L1 proteins are expressed in the HEK293 cells.



Fig. 11 Immobilized human PD-L1 protein at 2 μg/mL (100 μL/well) can bind biotinylated human PD-1 with a linear range of 0.038 - 0.6 μg/mL when detected by Streptavidin-HRP.



Fig. 12 Inhibition of PD-1-PD-L1 binding by Anti-PD-1 neutralizing antibody is measured using the PD-1 [Biotinylated] : PD-L1 Inhibitor Screening ELISA Assay Pair (Cat. No. EP-101).





	Molecule	Cat. No.	Species	Structur	e	Size
	2B4	2B4-H82F0	A Human	2B4 (22-221)	Fc Avi	25ug,200ug
Ì	2B4	2B4-H82E9	A Human	2B4 (22-221)	Avi His	25ug,200ug
	4-1BB	41B-H82E3	A Human	4-1BB (24-186)	Avi His	25ug,200ug
l	4-1BB	41B-H82F7	A Human	4-1BB (24-186)	Fc Avi	25ug,200ug
	4-1BB Ligand	41L-H82F9	A Human	4-1BB Ligand (50-254)	Fc Avi	25ug,200ug
	ANGPTL7	AN7-H82F3	A Human	ANGPTL7 (27-346)	mFc Avi	25ug,200ug
	APRIL	APL-H82F5	A Human	Fc Avi APRIL	. (105-250)	25ug,200ug
l	B7-1	B71-H82F2	A Human	B7-1 (35-242)	Fc Avi	25ug,200ug
	B7-1	B71-H82E9	A Human	B7-1 (35-242)	Avi His	25ug,200ug
	B7-2	CD6-H82E2	A Human	B7-2(26-247)	Avi His	25ug,200ug
	B7-2	CD6-H82F5	A Human	B7-2 (26-247)	Fc Avi	25ug,200ug
	B7-H3	B73-H82E6	A Human	B7-H3 (29-245)	Avi His	25ug,200ug
	B7-H3	B73-H82F5	A Human	B7-H3 (29-245)	Fc Avi	25ug,200ug
	B7-H3 (4Ig)	B7B-H82E8	A Human	B7-H3 (4Ig) (27-461)	His Avi	25ug,200ug
	B7-H3 (4Ig)	B7B-H82F5	& Human	B7-H3 (4lg) (27-461)	Fc Avi	25ug,200ug
	B7-H4	B74-H82E2	A Human	B7-H4(29-258)	Avi His	25ug,200ug
	B7-H5	B75-H82E1	& Human	B7-H5 (33-194)	Avi His	25ug,200ug
	B7-H5	B75-H82F3	A Human	B7-H5 (33-194)	Fc Avi	25ug,200ug
	B7-H6	B76-H82E5	& Human	B7-H6 (25-262)	His Avi	25ug,200ug
	B7-H7	B77-H82F5	& Human	В7-Н7 (23-344)	Fc Avi	25ug,200ug
	BAFF	BAF-H82Q2	RHuman	His Avi BAFF	(134-285)	25ug,200ug





Molecule	Cat. No.	Species	Structure	Size
BAFF	BAF-H82F3	A Human	Avi Fc BAFF (134-285)	25ug,200ug
BAFFR	BAR-M82F0	중고) Mouse	BAFFR (10-71) Fc Avi	25ug,200ug
ВСМА	BCA-H82E4	A Human	BCMA (1-54) His Avi	25ug,200ug
всма 💊	BC7-H82F0	A Human	BCMA(1-54) Fc Avi	25ug,200ug
ВСМА	BCA-M82F0	중진 Mouse	BCMA (1-49) Fc Avi	25ug,200ug
ВСМА	BCA-C82F4	Cynomolgus	BCMA (1-53) Fc Avi	25ug,200ug
BTLA	BTA-H82E6	A Human	BTLA (31-150) His Avi	25ug,200ug
BTLA	BTA-H82F3	A Human	BTLA (31-150) Fc Avi	25ug,200ug
BTLA	BTA-H82F8	A Human	BTLA (31-134) Fc Avi	25ug,200ug
BTN1A1	BT1-H82E6	A Human	BTN1A1 (27-242) His Avi	25ug,200ug
BTN3A1	BT1-H82F7	A Human	BTN3A1 (30-254) Fc Avi	25ug,200ug
BTN3A2	BT2-H82E7	A Human	BTN3A2 (30-248) His Avi	25ug,200ug
CA125	CA5-H82F4	A Human	CA125 (12660-12923) Fc Avi	25ug,200ug
CBLB	CBB-H81Q8	A Human	His Avi CBLB (39-426)	25ug,200ug
CD155	CD5-H82E3	A Human	CD155 (21-343) His Avi	25ug,200ug
CD155	CD5-H82F6	A Human	CD155 (21-343) Fc Avi	25ug,200ug
CD155	CD5-M82F7	Cal Mouse	CD155 (29-348) Fc Avi	25ug,200ug
CD200	OX2-H82F1	A Human	CD200 (31-232) Fc Avi	25ug,200ug
CD200	OX2-H82F7	A Human	L234A, L235A, P329G CD200 (31-232) Fc Avi	25ug,200ug
CD200 R1	CR2-H82F4	A Human	CD200 R1 (27-266) Fc Avi	25ug,200ug
CD23	CD3-H82Q5	A Human	His Avi CD23 (48-321)	25ug,200ug







Molecule	Cat. No.	Species	Structure	Size
CD27	TN7-H82F6	A Human	CD27 (21-192) Fc Avi	25ug,200ug
CD27 Ligand	CDL-H82Q9	A Human	His Avi CD27 Ligand (39-193)	25ug,200ug
CD27 Ligand	TN7-H82F4	A Human	Avi Fc CD27 Ligand (39-193)	25ug,200ug
CD27 Ligand	CDL-M82Qb	소고) Mouse	His Avi CD27 Ligand (47-195)	25ug,200ug
CD28	CD8-H82F2	A Human	CD28 (19-152) Fc Avi	25ug,200ug
CD3 epsilon	CDE-H82E1	A Human	CD3E (23-126) His Avi	25ug,200ug
CD30	CD0-H82E6	A Human	CD30 (19-379) Avi His	25ug,200ug
CD38	CD8-H82E7	A Human	CD38 (43-300) Avi His	25ug,200ug
CD3E & CD3D	CDD-H82W1	A Human	CD3E (23-126) His Avi CD3D(22-105)	25ug,200ug
CD3E & CD3D	CDD-C82W6		CD3E (22-117) His Avi CD3D(22-105)	25ug,200ug
CD4	CD4-H82F3	A Human	CD4 (26-396) Fc Avi	25ug,200ug
CD4	CD4-H82E8	A Human	CD4 (26-396) His Avi	25ug,200ug
CD40	CD0-H82E8	Aluman	CD40 (21-193) Avi His	25ug,200ug
CD40	TN5-H82F9	A Human	CD40 (21-193) Fc Avi	25ug,200ug
CD40 Ligand	CDL-H82F1	A Human	Avi Fc CD40 Ligand (113-261)	25ug,200ug
CD40 Ligand	CDL-H82Q8	Auman	His CD40 Ligand (108-261) Avi	25ug,200ug
CD47	CD7-H82E9	Aluman	CD47 (19-139) His Avi	25ug,200ug
CD47	CD7-H82F6	Auman	CD47 (19-139) Fc Avi	25ug,200ug
CD47	CD7-H82F8	A Human	L234A, L235A, P329G CD47 (19-139) F <mark>c Avi</mark>	25ug,200ug
CD52	CD2-H82F3	A Human	CD52 (25-36) Fc Avi	25ug,200ug
CD73	CD3-H82E3	& Human	CD73 (27-549) His Avi	25ug,200ug





Molecule	Cat. No.	Species	Structu	re	Size
CD84	CD4-H82E5	AHuman	CD84 (22-225)	His Avi	25ug,200ug
CD96	TAE-H82E3	A Human	CD96 (22-503)	His Avi	25ug,200ug
CEACAM-1	CE1-H82E5	A Human	CEACAM-1 (35-428)	Avi His	25ug,200ug
CEACAM-5	CE5-H82E0	A Human	CEACAM-5 (35-685)	His Avi	25ug,200ug
CEACAM-6	CE6-H82E7	A Human	CEACAM-6 (35-320)	His Avi	25ug,200ug
CEACAM-8	CE8-H82E9	A Human	CEACAM-8 (35-319)	His Avi	25ug,200ug
CTGF	CTF-H82E6	Aluman	CTGF (27-349)	His Avi	25ug,100ug
CTLA-4	CT4-H82E1	A Human	CTLA-4 (37-162)	His Avi	25ug,200ug
CTLA-4	CT4-H82F3	A Human	CTLA-4 (37-162)	Fc Avi	25ug,200ug
CTLA-4	CT4-C82E5		CTLA-4 (37-160)	Avi His	25ug,200ug
Dkk-1	DK1-H82F5	A Human	Dkk-1 (32-266)	Fc Avi	25ug,200ug
DNAM-1	DN1-H82F9	A Human	DNAM-1 (19-247)	Fc Avi	25ug,200ug
EGFR	EGR-H82E3	AHuman	EGF R(25-645)	His Avi	25ug,200ug
EGFR	EGR-H82E0	Auman	EGFR(25-29) -G- EGFR (29	98-645) Avi H	is 25ug,200ug
EMMPRIN	CD7-H82E0	A Human	EMMPRIN (22-205)	Avi His	25ug,200ug
ЕрСАМ	EPM-H82E8	A Human	EpCAM (24-265)	Avi His	25ug,200ug
ЕрСАМ	EPM-H82F9	A Human	EpCAM (24-265)	Fc Avi	25ug,200ug
ErbB3	ER3-H82E6	A Human	ErbB3 (20-643)	His Avi	25ug,200ug
Fc gamma RI/CD64	FCA-H82E8	A Human	CD64 (16-288)	His Avi	25ug,200ug
Fc gamma RI / CD64	FCA-C82E8	Cynomolgus	CD64 (11-288)	His Avi	25ug,200ug
Fc gamma RIIA/CD32a	CDA-H82E6	A Human	H167 CD32a (36 <mark>-</mark> 218)	Avi His	25ug,200ug





Molecule	Cat. No.	Species	Structu	ire	Size
Fc gamma RIIA/CD32a	CDA-H82E7	<u>A</u> Human	R167 CD32B (46 <mark>1</mark> 217)	Avi His	25ug,200ug
Fc gamma RIIA / CD32a	CDA-C82E5	S Cynomolgus	CD32a (28-208)	His Avi	25ug,200ug
Fc gamma RIIB / CD32b	CDB-H82E0	A Human	CD32b (46-217)	Avi His	25ug,200ug
Fc gamma RIIB / CD32b	CDB-H82E0	A Human	CD32b (40-217)	Avi His	25ug,200ug
Fc gamma RIIB / CD32b	CDB-C82E4	Cynomolgus	CD32b (46-224)	His Avi	25ug,200ug
Fc gamma RIII/CD16	FC6-C82E0	Cynomolgus	CD16 (17-208)	His Avi	25ug,200ug
Fc gamma RIIIA/CD16a	CDA-H82E9	A Human	V176 CD16a (17 <mark>-</mark> 208)	Avi His	25ug,200ug
Fc gamma RIIIA/CD16a	CDA-H82E8	A Human	<mark>F176</mark> CD16a (17 <mark>-</mark> 208)	Avi His	25ug,200ug
Fc gamma RIIIB/CD16b	CDB-H82E4	A Human	CD16b (NA1) (17-200)	His Avi	25ug,200ug
Fc gamma RIIIB / CD16b	CDB-H82Ea	A Human	CD16b (NA2) (17-200)	His Avi	25ug,200ug
Fc gamma RIV / CD16-2	FC4-M82E8	중고) Mouse	CD16-2 (21-203)	His Avi	25ug,200ug
FcRn	FCM-H82W4	A Human	FcGRT (24-297) B2M (21-119)	His Avi Strep II	25ug,200ug
FcRn	FCM-M82W6	중진 Mouse	FcGRT (22-297) B2M (21-119)	Avi His Strep II	25ug,200ug
FcRn	FCM-C82W5	Cynomolgus/Rhesus	FcGRT (24-297) B2M (21-119)	His Avi Strep II	25ug,200ug
FcRn	FCM-R82W7	द्वी Rat	FcGRT (23-298) B2M (21-119)	Avi His Strep II	25ug,200ug
FcRn	FCN-F82W3	7 Feline	FcGRT (24-297) B2M (21-118)	His Avi	25ug,200ug
FcRn	FCN-B82W3	S Bovine	FcGRT (24-298) B2M (21-118)	His Avi	25ug,200ug
FGL1	FG1-H82F4	A Human	Avi Fc FGL	1 (23-312)	25ug,200ug
FOLR1	F01-H82E2	A Human	FOLR1 (25-233)	His Avi	25ug,200ug
FOLR1	F01-H82F9	A Human	FOLR1 (25-233)	Fc Avi	25ug,200ug
FOLR1	F01-M82E9	중고) Mouse	FOLR1 (25-232)	His Avi	25ug,200ug





Molecule	Cat. No.	Species	Structure		Size
G-CSF R	GCR-H82E4	A Human	G-CSF R (25-621)	Avi His	25ug,200ug
GITR	GIR-H82E4	A Human	GITR (26-161)	His Avi	25ug,200ug
GITR	GIR-H82F7	A Human	GITR (26-161)	Fc Avi	25ug,200ug
GITR Ligand	GIL-H82F8	A Human	Avi Fc GITR Ligand (50-1	.77)	25ug,200ug
Glypican 3	GP3-H82E5	A Human	Glypican 3 (25-559)	His Avi	25ug,200ug
GP120	GP0-V182E6	-🔆 HIV-1 (CN54)	E46G, T396A, A497T GP120(36 <mark>-</mark> 507)	His Avi	25ug,200ug
HE4	HE4-H82E4	A Human	HE4 (31-124)	His Avi	25ug,200ug
Hemagglutinin (HA)	HA1-V82E4	🔆 Influenza	Hemagglutinin (HA) (17-339)	Avi His	25ug,200ug
Hemagglutinin (HA)	HA1-V82E1	🔆 Influenza	Hemagglutinin (HA) (19-523)	Avi His	25ug,200ug
Hemagglutinin (HA)	HA1-V82E2	र्क्त Influenza	Hemagglutinin (HA) (19-338)	Avi His	25ug,200ug
Her2	HE2-H82E2	A Human	Her2 (23-652)	His Avi	25ug,200ug
HGF R	MET-H82E1	A Human	HGF R (25-932)	Avi His	25ug,200ug
HVEM	HV4-H82F1	A Human	HVEM (39-202)	Fc Avi	25ug,200ug
ICOS	ICS-H82E5	A Human	C1365, C1375 ICOS (21-141)	His Avi	25ug,200ug
IGF-II	IG2-H82F9	A Human	Avi Fc IGF-II (25	-91)	25ug,200ug
IgG Fc	IG1-H82E2	A Human	lgG1 Fc (100-330)	Avi His	25ug,500ug
IgG Fc	IG1-H8213	A Human	lgG1 Fc (99-330)	Avi	25ug,500ug
lgG Fc	IGA-M8210	යිට Mouse	lgG2a Fc (98-330)	Avi	25ug,500ug
IL-12 R beta 1	ILB-H82F7	A Human	IL-12RB1 (24-540)	Fc Avi	25ug,200ug
IL-15	IL5-H82F3	A Human	IL-15 (49-162)	Fc Avi	25ug,200ug
IL-15	IL5-M82F3	යිට Mouse	IL-15 (49-162)	Fc Avi	25ug,200ug





Molecule	Cat. No.	Species	Structure	Size
IL-15 R alpha	ILA-H82F4	& Human	IL-15 R alpha (31-205) Fc Avi	25ug,200ug
IL-17 RA	ILR-H82E5	A Human	IL-17 RA (33-320) His Avi	25ug,200ug
IL-17 RA	ILA-H82F1	A Human	IL-17 RA (33-320) Fc Avi	25ug,200ug
IL-17A	ILA-H82Q1	A Human	His Avi IL-17A (24-155)	25ug,200ug
IL-17A&IL-17F	ILF-H82W1	A Human	IL-17 A (24-155) IL-17 F (31-163) Avi His	25ug,200ug
IL-17C	ILC-H82E5	A Human	IL-17C (19-197) His Avi	25ug,200ug
IL-2	IL2-H82F3	A Human	Fc IL-2 (21-153) Avi	25ug,200ug
IL-2 R alpha	ILA-H82E6	& Human	IL-2 R alpha (22-213) His Avi	25ug,200ug
IL-21	IL1-H82F7	& Human	IL-21 (23-155) Fc Avi	25ug,200ug
IL23A & IL12B	ILB-H82W6	& Human	His Avi IL23A (20-189)	25ug,200ug
IL-23R	ILR-H82F3	A Human	IL-23R (24-355) Fc Avi	25ug,200ug
IL-4	IL4-H82E0	A Human	IL-4 (25-153) Avi His	25ug,200ug
IL-4 R alpha	ILR-H82E9	A Human	IL-4 R alpha (26-232) Avi His	25ug,200ug
IL-6 R alpha	CD6-H82E8	A Human	IL-6 R alpha (20-365) Avi His	25ug,200ug
IL-7 R alpha	IL7-H82F8	Ruman	IL-7 R alpha (21-236) Fc Avi	25ug,200ug
Integrin alpha 4 beta 1	IT1-H82W1	A Human	ITGA4 (34-977) Acidic Tail His Avi	25ug,200ug
Integrin alpha 4 beta 7	IT7-H82W9	& Human	ITGA4 (34-977) Acidic Tail His Avi	25ug,200ug
Integrin alpha 5 beta 1	IT1-H82Wa	A Human	ITGA5 (42-995) Acidic Tail His Avi	25ug,200ug
Integrin alpha 8 beta 1	IT1-H82Wb	& Human	ITGA8 (39-1012) Acidic Tail His Avi	25ug,200ug
Integrin alpha V beta 1	IT1-H82W6	A Human	ITGAV (31-992) Acidic Tail His Avi	25ug,200ug
Integrin alpha V beta 3	IT3-H82Wa	Human	ITGAV (31-992) Acidic Tail His Avi	25ug,200ug





Molecule	Cat. No.	Species	Structure	Size
Integrin alpha V beta 5	IT5-H82Wa	A Human	ITGAV (31-992) Acidic Tail His Avi ITGB5 (24-719) Basic Tail	25ug,200ug
Integrin alpha V beta 6	IT6-H82E4	A Human	ITGAV (31-992)Acidic TailHisAviITGB6(22-707)Basic Tail	25ug,200ug
Integrin alpha V beta 8	IT8-H82W5	A Human	ITGAV (31-992)Acidic TailHisAviITGB8 (43-684)Basic Tail	25ug,200ug
LAG-3	LA3-H82E5	A Human	LAG-3 (23-450) His Avi	25ug,200ug
LAG-3	LA3-H82Fb	A Human	LAG-3 (23-450) Fc Avi	25ug,200ug
LAG-3	LA3-H82F3	A Human	LAG-3 (23-450) mFc Avi	25ug,200ug
LAIR-1	LA1-H82E3	A Human	LAIR-1 (22-163) His Avi	25ug,200ug
LAIR-2	LA2-H82E4	A Human	LAIR-2 (22-152) His Avi	25ug,200ug
LAP (TGF-beta 1)	LAP-H82Q6	A Human	C335 His Avi LAP (TGFB1) (30-278)	25ug,200ug
Latent TGF-beta 1	TG1-H82Qb	A Human	C33S His Avi Latent (TGFB1) (30-390)	25ug,200ug
LDL R	LDR-H82E7	A Human	LDL R (22-788) His Avi	25ug,200ug
LIF	LIF-H82E2	A Human	LIF (23-202) His Avi	25ug,200ug
LILRA1	LI1-H82E8	A Human	LILRA1 (17-461) His Avi	25ug,200ug
LILRA2	LI2-H82E9	A Human	LILRA2 (24-449) His Avi	25ug,200ug
LILRA3	LI3-H82E0	A Human	LILRA3 (24-439) His Avi	25ug,200ug
LILRA5	LI5-H82E1	A Human	LILRA5 (42-268) His Avi	25ug,200ug
LILRA6	LI6-H82E2	A Human	LILRA6 (24-447) His Avi	25ug,200ug
LILRB1	CDJ-H82F7	A Human	LILRB1 (24-458) Fc Avi	25ug,200ug
LILRB2	LI2-H82F5	A Human	LILRB2 (22-461) Fc Avi	25ug,200ug
LILRB3	CDA-H82F6	A Human	LILRB3 (24-443) Fc Avi	25ug,200ug
LILRB5	CDC-H82F8	A Human	LILRB5 (24-458) Fc Avi	25ug,200ug





Molecule	Cat. No.	Species	Structure	Size
M-CSF	MCF-H82E6	A Human	M-CSF (33-255) His Avi	25ug,200ug
M-CSF R	CSR-H82E0	A Human	M-CSF R (20-512) Avi His	25ug,200ug
M-CSF R	CSR-M82E8	소고) Mouse	M-CSF R (20-511) Avi His	25ug,200ug
Mesothelin	MSN-H82E9	A Human	Mesothelin (296-580) His Avi	25ug,200ug
Mesothelin	MSN-H82F6	A Human	Mesothelin (296-580) Fc Avi	25ug,200ug
MIF 💊	MIF-H82E7	A Human	MIF (2-115) His Avi	25ug,200ug
Nectin-2	CD2-H82F8	A Human	Nectin-2 (32-360) Fc Avi	25ug,200ug
Nectin-3	PV3-H82F3	A Human	Nectin-3 (58-400) Fc Avi	25ug,200ug
Neuropilin-1	NR1-H82E3	A Human	NRP1 (22-644) His Avi	25ug,200ug
NKp46	NC1-H82F9	A Human	NKp46 (22-254) Fc Avi	25ug,200ug
NS1	NS1-Z82E9	🔆 Zika virus	NS1 (796-1148) Avi His	25ug,200ug
NTB-A	NTA-H82E6	A Human	NTB-A (22-226) His Avi	25ug,200ug
OX40	TN4-H82E4	A Human	OX40 (29-216) Avi His	25ug,200ug
OX40	OX0-H82F7	A Human	OX40 (29-216) Fc Avi	25ug,200ug
OX40	OX0-M82E5	소고 Mouse	OX40 (20-211) His Avi	25ug,200ug
OX40 Ligand	OXL-H82Q6	A Human	His Avi OX40 Ligand (51-183)	25ug,200ug
OX40 Ligand	OXL-H82F4	A Human	Avi Fc OX40 Ligand (51-183)	25ug,200ug
PCSK9	PC9-H82E7	A Human	PCSK9 (31-692) Avi His	25ug,200ug
PCSK9	PCY-H82E7	Aluman	D374Y PCSK9 (31 <mark>-</mark> 692) Avi His	25ug,200ug
PCSK9	PC9-M82E1	중고) Mouse	PCSK9 (35-694) Avi His	25ug,200ug
PD-1	PD1-H82E4	A Human	PD-1 (25-167) Avi His	25ug,200ug





Molecule	Cat. No.	Species	Structure	Size
PD-1	PD1-H82F2	A Human	PD-1 (25-167) Fc Avi His	25ug,200ug
PD-1	PD1-H82F1	A Human	PD-1 (25-167) Fc Avi	25ug,200ug
PD-1	PD1-M82F4	중고) Mouse	PD-1 (25-167) Fc Avi	25ug,200ug
PD-L1	PD1-H82F3	A Human	PD-L1 (19-238) Fc Avi His	25ug,200ug
PD-L1	PD1-H82E5	A Human	PD-L1 (19-238) Avi His	25ug,200ug
PD-L1	PDL-H82F2	A Human	PD-L1 (19-238) Fc Avi	25ug,200ug
PD-L1	PD1-M82F5	്വി Mouse	PD-L1 (19-238) Fc Avi	25ug,200ug
PD-L2	PD2-H82E8	A Human	PD-L2 (20-219) Avi His	25ug,200ug
PD-L2	PD2-H82F6	A Human	PD-L2 (20-219) Fc Avi	25ug,200ug
Prolactin	PRN-H82F7	A Human	Prolactin (29-227) Fc Avi	25ug,200ug
PSMA	PSA-H82Qb	A Human	His Avi PSMA (44-750)	25ug,200ug
PVRIG	PVG-H82F6	A Human	PVRIG (41-171) Fc Avi	25ug,200ug
ROR1	RO1-H82F4	A Human	ROR1 (30-403) Fc Avi	25ug,200ug
ROR1	RO1-H82E6	A Human	ROR1 (30-403) His Avi	25ug,200ug
ROR1	RO1-H821y	A Human	ROR1 (30-403) Avi	25ug,200ug
ROR2	RO2-H82E3	A Human	ROR2 (34-403) His Avi	25ug,200ug
SCF	SCF-H82E1	A Human	SCF (26-190) Avi His	25ug,200ug
Siglec-2	SI2-H82F8	A Human	Siglec-2 (20-687) Fc Avi	25ug,200ug
Siglec-3	CD3-H82E7	A Human	Siglec-3 (18-259) Avi His	25ug,200ug
Siglec-15	SG5-H82F5	A Human	Siglec-15 (20-263) Fc Avi	25ug,200ug
SIRP alpha	SIA-H82E0	<u>A</u> Human	SIRP alpha (31-370) His Avi	25ug,200ug





Molecule	Cat. No.	Species	Structure	Size
SIRP alpha	CDA-H82F2	AHuman	SIRP alpha (31-370) Fc Avi	25ug,200ug
SLAMF1	SL1-H82E3	A Human	SLAMF1 (21-237) His Avi	25ug,200ug
SLAMF7	SL7-H82E0	A Human	SLAMF7 (23-226) Avi His	25ug,200ug
TACI	TAI-H82F6	A Human	TACI (2-166) Fc Avi	25ug,200ug
TIGIT	TIT-H82E5	A Human	TIGIT (22-141) Avi His	25ug,200ug
TIGIT	TIT-H82F1	A Human	TIGIT (22-141) Fc Avi	25ug,200ug
TIM-3	TM3-H82E7	A Human	TIM-3 (22-200) Avi His	25ug,200ug
TNF-alpha (HPLC-verified)	TNA-H82E3	A Human	TNF-alpha (77-233) His Avi	25ug,200ug
TNF-alpha (HPLC-verified)	TNA-M82E9	소 전 Mouse	TNF-alpha (80-235) His Avi	25ug,200ug
TNFSF11	RAL-H82F9	A Human	Avi Fc TNFSF11 (64-245)	25ug,200ug
TPBG	TPG-H82Eb	A Human	TPBG (32-355) His Avi	25ug,200ug
TRAIL R2	TR2-H82E6	A Human	DR5 (56-182) Avi His	25ug,200ug
TROP-2	TR2-H82E5	A Human	TROP-2 (27-274) His Avi	25ug,200ug
TSLP	TSP-H82E0	A Human	R127A, R130A TSLP (29 159) His Avi	25ug,200ug
TSLP	TSP-H82Eb	& Human	TSLP (29-159) His Avi	25ug,200ug
VEGF R1	VE1-H82E3	A Human	VEGF R1 (27-756) His Avi	25ug,200ug
VEGF R2	KDR-H82E5	A Human	VEGF R2 (20-764) Avi His	25ug,200ug
VEGF R3	FL4-H82E1	A Human	VEGF R3 (25-776) His Avi	25ug,200ug
VEGF120	VE0-M82Q2	소고 Mouse	His Avi VEGF120 (27-146)	25ug,200ug
VEGF121	VE1-H82E7	A Human	Avi His VEGF121 (27-147)	25ug,200ug
VEGF164	VE4-M82Q3	Sal Mouse	His Avi VEGF164 (27-190)	25ug,200ug





Molecule	Cat. No.	Species	Structure	Size
VEGF165	VE5-H82Q0	A Human	His Avi VEGF165 (27-191)	25ug,200ug
VSIG3	VS3-H82F9	A Human	VSIG3 (23-241) Fc Avi	25ug,200ug
VSIG8	VS8-H82F2	A Human	VSIG8 (22-263) Fc Avi	25ug,200ug

UltraLys Series (Chemical labeling) Product List

Molecule	Cat. No.	Species	Structure	Size
B7-H4	B74-H8222	Auman	B7- H4 (29-258) His	25ug,200ug
CD19	CD9-H8259	<u>A</u> Human	CD19 (20-291) Fc	25ug,200ug
CD3E & CD3D	CDD-H82W0	A Human	CD3E (23-126) Fc His CD3D (22-105) Fc Flag	25ug,200ug
CD3 epsilon	CDE-H8223	<u> A</u> Human	CD3 epsilon (23-126) His	25ug,200ug
CX3CL1	CX1-H8221	A Human	CX3CL1 (25-341) His	25ug,200ug
EphB4	EP4-H8229	A Human	EphB4 (16-539) His	25ug,200ug
EpCAM	EPM-H8223	A Human	EpCAM (24-265) His	25ug,200ug
EpCAM	EPM-H8254	A Human	EpCAM (24-265) Fc	25ug,200ug
ErbB3	ER3-H8223	A Human	ErbB3 (20-643) His	25ug,200ug
FcRn 💊	FCM-H8286	A Human	Fc GRT (24-297) His B2M (21-119) Strep II	25ug,200ug
FGF basic	BFF-H8117	A Human	FGF basic (143-288)	50ug,500ug
Growth Hormone R	GHR-H8222	A Human	Growth Hormone R (27-264) His	50ug,200ug
GM-CSF	GMF-H8214	& Human	GM-CSF (18-144)	25ug,200ug





UltraLys Series (Chemical labeling) Product List

Molecule	Cat. No.	Species	Structure	Size
GPA33	GP3-H8224	A Human	GPA33 (22-235) His	25ug,200ug
Her2	HE2-H822R	A Human	Her2 (23-652) His	25ug,200ug
IL-6	IL6-H8218	& Human	IL-6 (30-212)	25ug,200ug
Mesothelin	MSN-H8223	A Human	Mesothelin (296-580) His	25ug,200ug
Mesothelin	MSN-H826X	A Human	Fc Mesothelin (296-580)	25ug,200ug
Protein L	RPL-P814R	N/A	His Protein L	500ug,2mg
SOST	SOT-H8245	A Human	His SOST (24-213)	25ug,200ug
TFPI	TFI-H8226	A Human	TFPI (29-282) His	25ug,200ug
Transferrin R	TFR-H8243	A Human	His Transferrin R (89-760)	25ug,200ug
TNF-alpha	TNA-H8211	A Human	TNF-alpha (77-233)	25ug,200ug
VEGF165	VE5-H8210	A Human	VEGF165 (27-191)	25ug,200ug







ご興味があるものがあれば、こちらまでお問い合わせ下さい!!



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