



# Star Staining

## 蛍光標識製品

### 新世代の CAR-T 細胞検出ツール

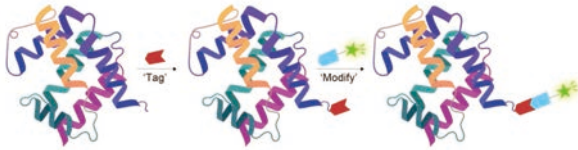
- ★ 新世代の部位特異的標識技術を採用
- ★ 天然の構造と修飾を維持
- ★ 均一性に優れ、ロット間の一貫性が高い
- ★ CAR-T 細胞検出専用設計された製品
- ★ 多彩な蛍光標識製品の中からお選びいただけます。



Star Staining は、ACROBiosystems が新世代の部位特異的標識技術によって開発した蛍光標識製品であり、"Star Standard" 品質基準のもと製造されています。臨床試験での CAR-T 細胞の検出とモニタリング専用に設計された製品です。

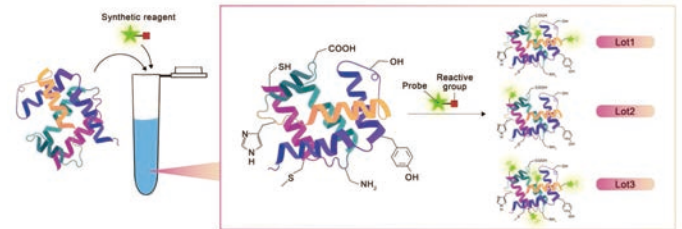
## Star-Staining 技術プラットフォーム

### ■ 新世代の部位特異的な標識



- The labeling happens at the specific tag and far away from active sites of proteins

### ■ 従来の化学的標識



- Non-selective random labeling and affect natural structure

## Star Staining の特長

▶ 天然の生物活性を維持する、新世代の部位特異的標識技術を採用

▶ 遺伝子非導入 PBMC では非特異的結合を起こさない

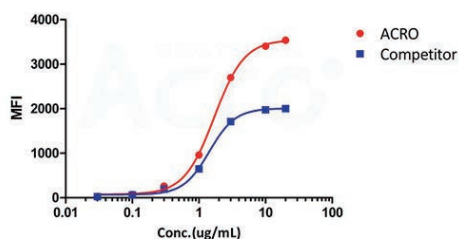
▶ 多彩な蛍光標識製品を提供可能 (FITC/PE/APC/Alexa Fluor 647/488/555)

▶ フローサイトメトリーによる検証時の特異度と感度が高い

▶ 均一性に優れ、ロット間の一貫性が高い

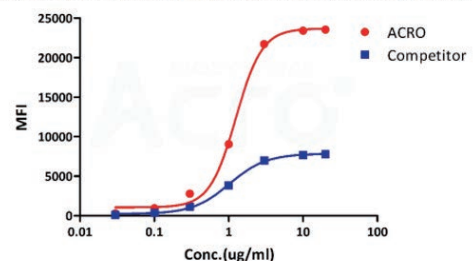
★ 当社の Star Staining 製品は、他社製品よりも強い蛍光信号を発します。

Alexa Fluor 488-Labeled Human Mesothelin (296-580) Protein



The activity of Alexa Fluor 647-Labeled Human Mesothelin (296-580), His Tag (Cat. No. MSN-HA2H5) was higher than other Competitor.

Alexa Fluor 647-Labeled Human Mesothelin (296-580) Protein

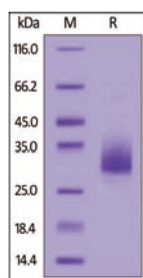


The activity of Alexa Fluor 488-Labeled Human Mesothelin (296-580), His Tag (Cat. No. MSN-HA2H9) was higher than other Competitor.

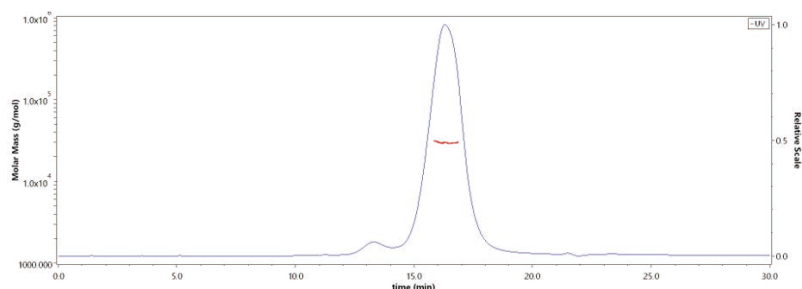
# アッセイデータ

## ■ 高純度

★ Star Staining FITC 標識ヒト BCMA は 90% を超える高純度



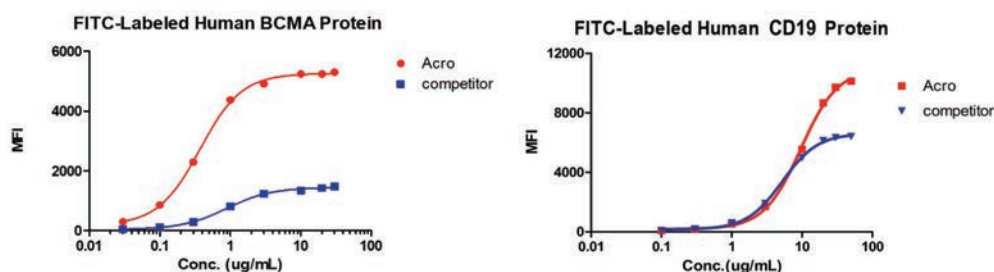
FITC-Labeled Human BCMA, His Tag (Cat. No. **BCA-HF2H3**) on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 90%.



The purity of FITC-Labeled Human BCMA, His Tag (Cat. No. **BCA-HF2H3**) was more than 90% and the molecular weight of this protein is around 24-34 kDa verified by SEC-MALS.

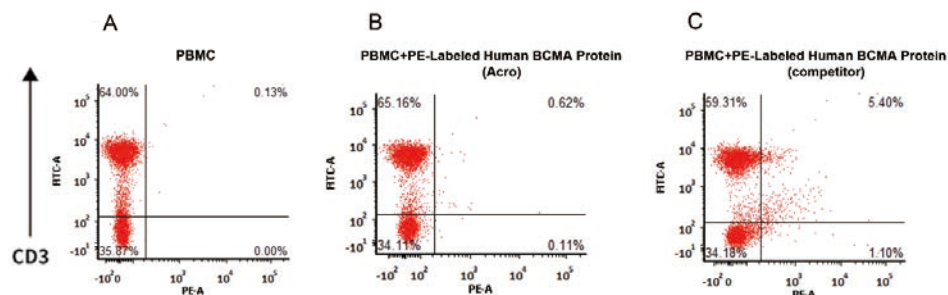
## ■ 高い生物活性

★ 他社製品より高い結合活性



Binding activity of FITC-Labeled Human BCMA and CD19 protein from two different vendors were evaluated by the FACS analysis. The result showed that ACRO's Star Staining FITC-Labeled Human BCMA (Cat. No. **BCA-HF2H3**) and CD19 (Cat. No. **CD9-HF2H3**) protein have a much higher binding activity than that of the other competitor.

## ■ 遺伝子非導入 PBMC では非特異的結合を起こさない

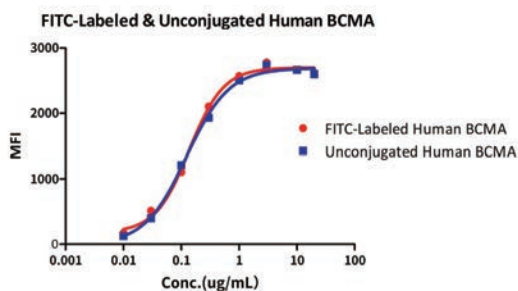


Non-specific binding to non-transduced PBMCs between PE-Labeled Human BCMA Protein of Acro and competitor. 5e5 of non-transduced PBMCs were stained with PE-Labeled Human BCMA Protein and anti-CD3 antibody, washed and then analyzed with FACS. FITC signal was used to evaluate the expression of CD3+ T cells in non-transduced PBMCs, and PE signal was used to evaluate the non-specific binding activity to non-transduced PBMCs.

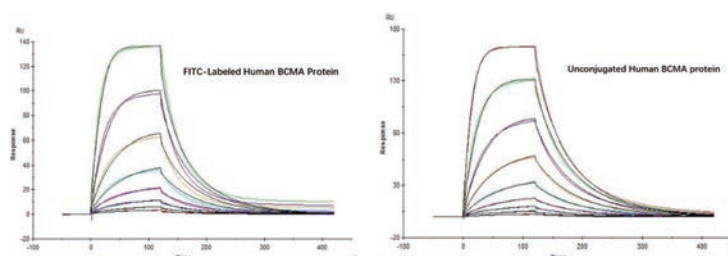


## ■ 天然の生物活性を維持

★ 結合の前後で高い結合特性を示すことが FACS および SPR により検証済み



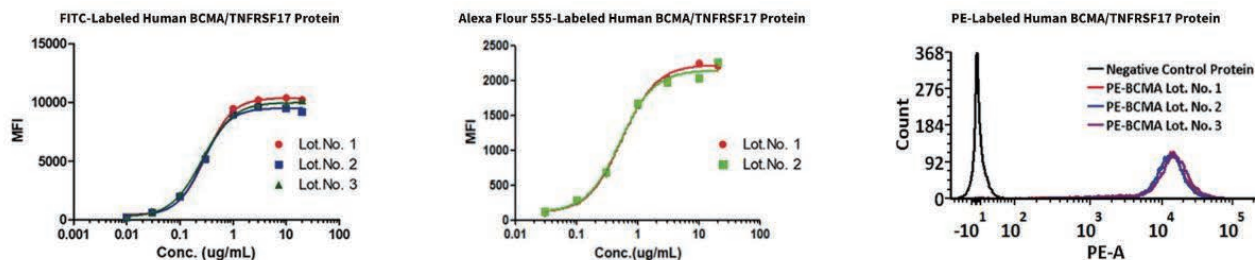
Binding activity of the Human BCMA before and after FITC labeling was evaluated in the above FACS analysis. The result shows that FITC-Labeled BCMA (Cat. No. **BCA-HF2H3**) and unconjugated Human BCMA have almost the same level of binding activity.



Binding affinity of the Human BCMA before and after FITC labeling was evaluated in the above SPR analysis (Biacore T200). The result shows that FITC-Labeled (Cat. No. **BCA-HF2H3**) and unconjugated Human BCMA, His Tag have almost the same level of affinity.

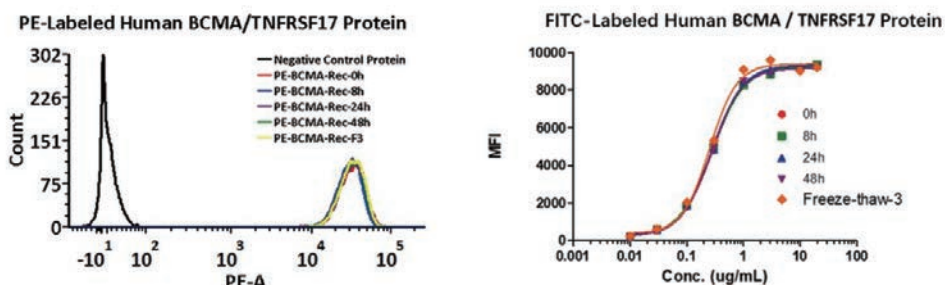
## ■ ロット間の一貫性が高い

★ FITC / Alexa Fluor-555 / PE 標識ヒト BCMA タンパク質の結合活性は、FACS でロットごとに検証済み



Binding activity of different lots of FITC-Labeled Human BCMA (Cat. No. **BCA-HF2H3**), AF555-Labeled Human BCMA (Cat. No. **BCA-HA2H6**) and PE-Labeled Human BCMA (Cat. No. **BCA-HP2H7**) against anti-BCMA CAR-293 cells was evaluated by flow cytometry. The result shows very high batch-to-batch consistency.

## ■ 高い安定性



PE-Labeled Human BCMA (Cat. No. **BCA-HP2H7**) and FITC-Labeled Human BCMA (Cat. No. **BCA-HF2H3**) at 25 °C for 48 hours and freeze-thaw cycles are stable without performance reduction.

## 製品リスト

蛍光標識	分子	分類コード	製品説明
	BCMA	BCA-HF2H3	FITC-Labeled Human BCMA / TNFRSF17 Protein, His TagStar Staining
<b>FITC</b>	CD19	CD9-HF2H3	FITC-Labeled Human CD19 (20-291) Protein, His TagStar Staining
	Mesothelin	MSN-HF2H3	FITC-Labeled Human Mesothelin / MSLN (296-580) Protein, His TagStar Staining
	BCMA	BCA-HP2H7	PE-Labeled Human BCMA / TNFRSF17 Protein, His TagStar Staining
<b>PE</b>	CD19	CD9-HP2H5	PE-Labeled Human CD19 (20-291) Protein, His TagStar Staining
	Mesothelin	MSN-HP2H8	PE-Labeled Human Mesothelin / MSLN (296-580) Protein, His TagStar Staining
	Siglec-2	SI2-HP2H5	PE-Labeled Human Siglec-2 / CD22 Protein, His TagStar Staining
	BCMA	BCA-HA2H4	APC-Labeled Human BCMA / TNFRSF17 Protein, His TagStar Staining
<b>APC</b>	CD19	CD9-HA2H9	APC-Labeled Human CD19 (20-291) Protein, His TagStar Staining
	Mesothelin	MSN-HA2H6	APC-Labeled Human Mesothelin / MSLN (296-580) Protein, His TagStar Staining
	BCMA	BCA-HA2H9	Alexa Fluor 647-Labeled Human BCMA / TNFRSF17 Protein, His TagStar Staining
	CD19	CD9-HA2H6	Alexa Fluor 647-Labeled Human CD19 (20-291) Protein, His TagStar Staining
<b>Alexa Fluor 647</b>	Her2	HE2-HA2H5	Alexa Fluor 647-Labeled Human Her2 / ErbB2 Protein, His TagStar Staining
	Mesothelin	MSN-HA2H5	Alexa Fluor 647-Labeled Human Mesothelin / MSLN (296-580) Protein, His TagStar Staining
	Siglec-3	CD3-HA2H6	Alexa Fluor 647-Labeled Human Siglec-3 / CD33 Protein, His TagStar Staining
	CD19	CD9-HA2H7	Alexa Fluor 555-Labeled Human CD19 (20-291) Protein, His TagStar Staining
<b>Alexa Fluor 555</b>	Her2	HE2-HA2H4	Alexa Fluor 555-Labeled Human Her2 / ErbB2 Protein, His TagStar Staining
	Mesothelin	MSN-HA2H8	Alexa Fluor 555-Labeled Human Mesothelin / MSLN (296-580) Protein, His TagStar Staining
	Siglec-2	SI2-HA2H9	Alexa Fluor 555-Labeled Human Siglec-2 / CD22 Protein, His TagStar Staining
	BCMA	BCA-HA2H8	Alexa Fluor 488-Labeled Human BCMA / TNFRSF17 Protein, His TagStar Staining
	CD19	CD9-HA2H3	Alexa Fluor 488-Labeled Human CD19 (20-291) Protein, His TagStar Staining
<b>Alexa Fluor 488</b>	Her2	HE2-HA2H3	Alexa Fluor 488-Labeled Human Her2 / ErbB2 Protein, His TagStar Staining
	Mesothelin	MSN-HA2H9	Alexa Fluor 488-Labeled Human Mesothelin / MSLN (296-580) Protein, His TagStar Staining
	Siglec-2	SI2-HA2H7	Alexa Fluor 488-Labeled Human Siglec-2 / CD22 Protein, His TagStar Staining

## その他の Star Staining 製品

### >>> Alexa Fluor 647 標識

BCMA	CD19	Mesothelin	Glypican 3	CD147	CD300e
HER2	Siglec-2	Siglec-3	PD-1	OX40	MUC-1
TSLP R					

### >>> Alexa Fluor 555 標識

BCMA	CD19	Mesothelin	Glypican 3	NKG2D	FAP
Nectin-4	CD37	protein L			

### >>> Alexa Fluor 488 標識

BCMA	CD19	Mesothelin	Glypican 3	CD147	CD300e
HER2	Siglec-2	Siglec-3	PD-1	OX40	MUC-1
TSLP R					

### >>> FITC 標識

Glypican 3	HER2	CD7	Siglec-3	CD30	EGF R
EGFRVIII	GUCY2C	NKG2D	FAP	Nectin-4	CD37
protein L					

### >>> PE 標識

Glypican 3	NKG2D	FAP	Nectin-4	CD37	protein L
CD147	CD300e	HER2	Siglec-2	Siglec-3	PD-1
OX40	MUC-1	TSLP R			

### >>> APC 標識

Glypican 3	CD147	CD300e	HER2	Siglec-2	Siglec-3
PD-1	OX40	MUC-1	TSLP R		

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**Her2 BAFFR LAG-3**  
**Fc Receptor Siglec-10**  
**Biotinylated Protein**  
 PD-L1 VEGF165 CD3 epsilon  
**CD20 PD-1 BCMA**  
**CD27 PVRIG**  
**CD47 PSMA**  
**CFGL1 TFPI**  
**Siglec-15 Integrin**  
**CD24 CD3E & CD3D CD20**  
**CD19 FcRn PCSK9**  
**IL-2 R alpha**  
**CAR-T Target Protein**  
**Biotinylated Protein**  
**CD20 CD200 GITR Nectin-4**  
 VEGF165 PCSK9 CD73 FGLI  
 SIRP IgG1 Fc CD40 CD69 Nectin-4  
**BCMA**  
 VEGF165 PCSK9 CD73 FGLI  
 SIRP IgG1 Fc CD40 CD69 Nectin-4  
**ADA Service IL-2**  
 Nectin-4 Biotinylated Protein CD3E & CD3D Immune Checkpoint Protein  
**SPR /BLI analytical service**  
**Glypican 3 Integrin PD-1**  
**ADA Service MICA CD30 MICA**  
 EGFR B7-H3 BCMA CD30 MICA  
**Integrin TIGIT TGF-beta 1**  
**4-1BB Siglec-15**