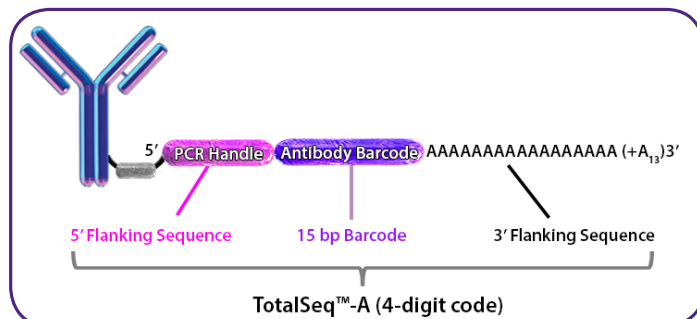


TotalSeq™ Antibody Oligonucleotide Conjugates

Reagents for High-Throughput Single Cell Proteogenomics

Great advances in next generation sequencing (NGS) and droplet-based microfluidic technologies have enabled transcriptome level data generation from thousands of single cells, simultaneously, via high-throughput single-cell RNA sequencing (scRNA-seq). Recently, the 10x Genomics Chromium System plus Single Cell 3' Solution have facilitated widespread adoption of scRNA-seq in biomedical research, providing hope that the method can be used to expedite the path to precision medicine. Despite the vital importance of proteins in biology, it has not previously been possible to incorporate proteomics into these high throughput scRNA-seq assays. To this end, BioLegend is proud to announce our TotalSeq™ product line, which enables the generation of both single cell transcriptomic and proteomic data simultaneously, in high throughput, catalyzing the next wave of legendary discovery in biomedical research.



Schematic representation of antibody-oligonucleotide conjugates designed for CITE-seq. The full sequence of the oligonucleotide includes a PCR handle (CCTGGCACCCGAGAATCCA), the 15 bp barcode in the table below, and a poly A tail (BAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA*A). TotalSeq™-A refers to conjugates developed specifically to work for CITE-seq on Illumina sequencers and the 10X Genomics platform. Other formats may be available in the future.

- **Simultaneous Multiomic Data Generation:** Increased power of single cell experiments by adding proteomic and transcriptomic data.
- **Reduced Dropouts:** In contrast to mRNA, TotalSeq™- derived tags are not highly prone to dropouts, which are basically false negative readouts.
- **Enhanced Cell Type Identification:** This can be achieved thanks to lower dropout rate and thus enhanced sample clustering

Our expanding conjugation portfolio will include the following antibodies.

For availability updates, visit: [biolegend.com/totalseq](https://www.biolegend.com/totalseq)

TotalSeq™-A Antibodies to identify specific cell types

Human Cell Type	Specificity	Barcode
Activated Leukocytes	CD69	A0146
Activated T Cells, Treg Cells	CD25	A0085
B Cells	CD19	A0050
Basophils	FcεR1α	A0352
Dendritic Cells	CD83	A0359
Dendritic Cells	CD141 (Thrombomodulin)	A0163
Dendritic Cells	CD1c	A0160
Dendritic Cells, B Cells, Activated T Cells	HLA-DR	A0159
Leukocytes	HLA-A,B,C	A0058
Eosinophils	Siglec-8	A0199
Hematopoietic Stem Cell	CD117 (c-kit)	A0061
Hematopoietic Stem Cell	CD90 (Thy1)	A0060
Hematopoietic Stem Cell	CD34	A0054
Macrophage	CD11b	A0161
Macrophage	CD163	A0358
Monocyte	CD64	A0162
Monocyte	CD14	A0081
Natural Killer Cells, Monocytes, Neutrophils	CD16	A0083
Natural Killer Cells	CD56 (NCAM-1)	A0084
Neutrophils	CD15 (SSEA-1)	A0392
Plasma Cells	CD138 (Syndecan-1)	A0055
Plasmacytoid Dendritic Cells	CD303 (BDCA-2)	A0370
Plasmacytoid Dendritic Cells, Basophils	CD123	A0064
Platelets	CD42b	A0216
Platelets (activated)	CD62P (P-Selectin)	A0218
Red Blood Cells	CD235ab	A0196
T Cells	CD3	A0034

Mouse Cell Type	Specificity	Barcode
Activated Leukocytes	CD69	A0197
Activated T Cells, Treg Cells	CD25	A0097
B Cells	CD19	A0093
B Cells, Neurons	CD200 (OX2)	A0079
Basophils	FcεR1α	A0115
Dendritic Cells, B Cells	I-A/I-E	A0117
Dendritic Cells, Plasmacytoid Dendritic Cells	CD11c	A0106
Hematopoietic Stem Cell	CD150 (SLAM)	A0203
Hematopoietic Stem Cell	Ly-6A/E (Sca-1)	A0130
Hematopoietic Stem Cell	CD117 (c-kit)	A0012
Macrophage	F4/80	A0114
Monocyte	CD115 (CSF-1R)	A0105
Monocyte	Ly-6C	A0013
Monocyte, Neutrophils, Eosinophils	CD11b	A0014
Myeloid Cells	Ly-6G/Ly-6C (Gr-1)	A0116
Neutrophils	Ly-6G	A0015
Platelets (activated)	CD62P (P-selectin)	A0229
Red Blood Cells	TER-119/Erythroid Cells	A0122
T Cells	CD3	A0094

BioLegend is ISO 13485:2003 Certified



07-0136-01i

TotalSeq™ Antibody Oligonucleotide Conjugates

For the latest product updates and product information, visit: biolegend.com

TotalSeq™-Enabled Seamless Workflow

1. Stain with TotalSeq™ reagents
2. Run single cell platform, with Antibody-Derived Tags (ADT, antibody-oligo conjugates) amplification
3. Separate ADT-derived cDNA from mRNA-derived cDNA
4. Amplify both cDNA libraries
5. Sequence libraries

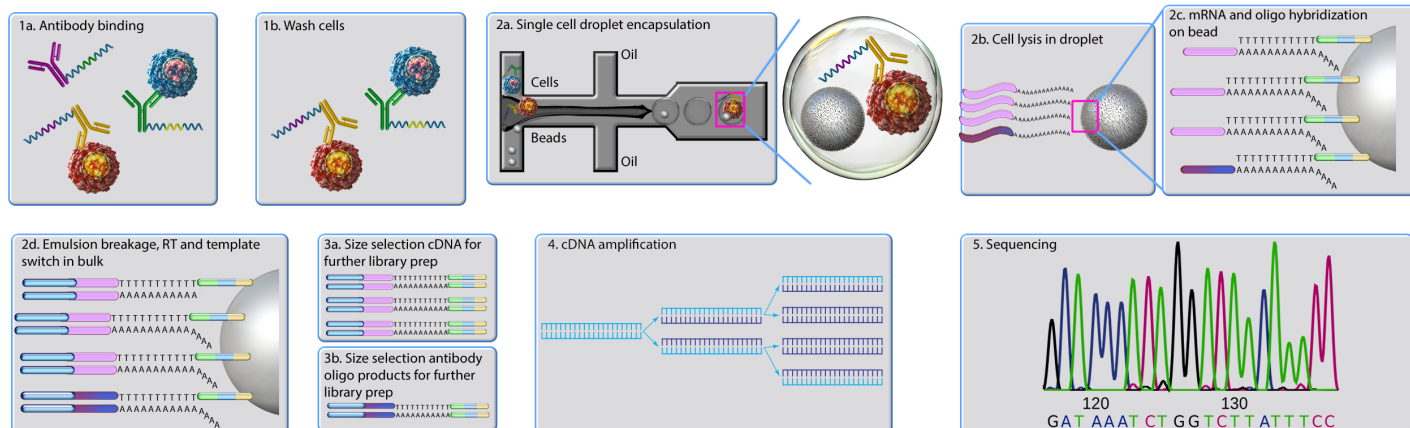


Diagram illustrating CITE-seq workflow using TotalSeq™ antibodies. Step 3 can be performed by Drop-Seq (depicted in the figure), or another compatible method such as the Chromium™ platform from 10X Genomics.

Coming Soon Reagents

Human TotalSeq™-A Antibodies

Specificity	Barcode	Clone	Cat. No.
B7-H4	A0395	MIH43	358114
CD1c	A0160	L161	331539
CD3	A0034	UCHT1	300475
CD3	A0049	SK7	344847
CD4	A0072	RPA-T4	300563
CD7	A0066	CD7-6B7	343123
CD8	A0046	SK1	344751
CD86	A0006	IT2.2	305443
CD8a	A0080	RPA-T8	301067
CD10	A0062	HI10a	312231
CD11a	A0185	TS2/4	350615
CD11b	A0161	ICRF44	301353
CD14	A0051	63D3	367131
CD14	A0081	M5E2	301855
CD15 (SSEA-1)	A0392	W6D3	323046
CD16	A0083	3G8	302061
CD19	A0050	H1B19	302259
CD22	A0393	S-HCL-1	363514
CD25	A0085	BC96	302643
CD26	A0396	BA5b	302720
CD33	A0052	P67.6	366629
CD45	A0086	HI30	304063
CD45	A0391	HI30	304064
CD45RA	A0063	HI100	304157
CD45RO	A0087	UCHL1	304255
CD47	A0026	CC2C6	323129
CD48	A0029	BJ40	336709
CD52	A0033	HI186	316017

Specificity	Barcode	Clone	Cat. No.
CD56 (NCAM)	A0084	QA17A16	392421
CD90 (Thy1)	A0060	5E10	328135
CD117 (c-kit)	A0061	104D2	313241
CD127 (IL-7Rα)	A0390	A019D5	351352
CD137L (4-1BB Ligand)	A0022	5F4	311509
CD152 (CTLA-4)	A0151	BNI3	369619
CD154	A0032	24-31	310843
CD270 (HVEM, TR2)	A0020	122	318813
CD273 (B7-DC, PD-L2)	A0008	24F.10C12	329619
CD275 (B7-H2, ICOSL)	A0009	2D3	309413
CD276 (B7-H3)	A0010	DCN.70	331607
CD279 (PD-1)	A0088	EH12.2H7	329955
CD294 (CRTH2)	A0102	BM16	350127
CD314 (NKG2D)	A0165	1D11	320835
EGFR	A0132	AY13	352923
TCR γ/δ	A0139	B1	331229
TIGIT (VSTM3)	A0089	A15153G	372725

Hu/Mu TotalSeq™-A Antibodies

Specificity	Barcode	Clone	Cat. No.
CD11b	A0014	M1/70	101265
CD45R/B220	A0103	RA3-6B2	103263
CD44	A0073	IM7	103045
CD49f	A0070	GoH3	313633

Mouse TotalSeq™-A Antibodies

Specificity	Barcode	Clone	Cat. No.
CD8a	A0002	53-6.7	100773
CD20	A0192	SA275A11	150423
CD45	A0096	30-F11	103159
CD49d	A0078	R1-2	103623
CD54	A0074	YN1/1.7.4	116127
CD90.2	A0075	30-H12	105345
CD102	A0104	3C4 (MIC2/4)	105613
CD115 (CSF-1R)	A0105	AFS98	135533
CD200 (OX2)	A0079	OX-90	123811
CD279 (PD-1)	A0004	RMP1-30	109123
CD335 (Nkp46)	A0184	29A1.4	137633
CD357 (GITR)	A0193	DTA-1	126319
CD366 (Tim-3)	A0003	RMT3-23	119729

Isotype Control

TotalSeq™-A Antibodies

Specificity	Barcode	Clone	Cat. No.
Mouse IgG1, κ	A0090	MOPC-21	400199
Mouse IgG2a, κ	A0091	MOPC-173	400285
Mouse IgG2b, κ	A0092	MPC-11	400373

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