

R-PLEX™ Antibody Set

Human 4-1BB/TNFRSF9

Cat. No: F218U-3, 5-plate size

F218U-8, 50-plate size

Ordering Information

MSD Customer Service
Phone: 1-240-314-2795
Fax: 1-301-990-2776
Email: CustomerService@mesoscale.com
www.mesoscale.com/support

Scientific Support

Phone: 1-240-314-2798
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Company Address

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For Research Use Only.
Not for use in diagnostic
procedures.

Contents and Storage

Description

Description	No. of vials	Vol. /vial	Storage
Human 4-1BB/TNFRSF9 Calibrator, 20X	5	50 µL	≤-70°C
Biotin Human 4-1BB/TNFRSF9 Capture Antibody	1	1,250 µL	2-8°C
SULFO-TAG™ Human 4-1BB/TNFRSF9 Detection Antibody, 100X	1	375 µL	2-8°C

Note: Calibrators and antibodies are shipped separately.

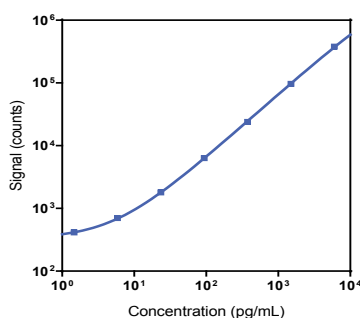
R-PLEX Antibody Sets provide an expanded menu of electrochemiluminescence assays for biomarker discovery and development. The sets include a matched biotinylated capture and SULFO-TAG conjugated detection antibody pair and calibrator for the quick and easy development of highly sensitive immunoassays on a variety of MSD® plates including U-PLEX® MULTI-SPOT plates and MSD GOLD™ Small Spot Streptavidin plates.

4-1BB/TNFRSF9 (4-1BB, TNFRSF9, CD137) is a costimulatory protein of the TNF receptor family. It is expressed by activated T cells, and is prevalent in CD8+ cells. 4-1BB/TNFRSF9 is also expressed in a wide variety of immune cells, including dendritic cells, natural killer cells, and granulocytes, as well as cells of blood vessels during periods of inflammation. Its main function is to act as a costimulator of T cells. Crosslinking of 4-1BB/TNFRSF9 increases T cell proliferation, cytolytic activity, and production of IFN-γ and other cytokines. 4-1BB/TNFRSF9 interacts with TRAF2. It is of special interest in cancer research.

Assay Performance

R-PLEX Antibody Sets can be easily adapted to develop singleplex and multiplex assays on the MSD platform. MSD GOLD Small Spot Streptavidin plates can be used for singleplex assay development, whereas multiplex assay formats can be performed using U-PLEX MULTI-SPOT® plates.

Representative data from the R-PLEX Human 4-1BB/TNFRSF9 Antibody Set tested on MSD's U-PLEX platform using Diluent 7 as assay diluent and Diluent 11 as antibody diluent are presented below. The lower limit of detection (LLOD) is a calculated concentration corresponding to the signal 2.5 standard deviations above the background (zero calibrator). The performance of your assay may vary depending on the diluent used, the sample type, and if testing in a multiplexed format.



Calibrator Stock (20X)	120,000 pg/mL
Calibrator Standard 1 (top of curve); 20-fold calibrator stock dilution	6,000 pg/mL
LLOD	1.2 pg/mL

For developing individual assays using R-PLEX Antibody Sets, please refer to the R-PLEX Antibody Sets Singleplex Assays product insert. For multiplex assay development using R-PLEX Antibody Sets, use the R-PLEX Antibody Sets Multiplex Assays product insert. For multiplexing a combination of R-PLEX and U-PLEX Antibody Sets, refer to the U-PLEX Development Pack product insert. The detailed instruction manuals as well as the R-PLEX assay datasheets are available at www.mesoscale.com/R-PLEX-documents.

Sample Dilution

The R-PLEX Human 4-1BB/TNFRSF9 Antibody Set has been tested with the following sample type(s) at the specified dilution in assay diluent.

Sample Type	Recommended Fold Dilution
Serum	4
Plasma	4

We recommend performing a dilution series and testing for diluent compatibility when measuring a different sample type.

R-PLEX Antibody Set

Source

Calibrator	Recombinant Human 4-1BB/TNFRSF9 expressed in mouse cell line
Antibodies	Capture antibody - goat polyclonal, detection antibody - goat polyclonal
Assay generation	A

Recommended Assay Components

The following items are recommended for developing assays using R-PLEX Antibody Sets.

Plates for Singleplex Assay Development: Plates are available in packs of 1, 5, 30, 120, and 510.

Description	Catalog No.
MSD GOLD 96-well Small Spot Streptavidin Plates	L45SA

Plates for Multiplex Assay Development: The U-PLEX platform allows you to create your own multiplex assays. Using two simple tools, a 10-spot U-PLEX plate and unique Linkers, you can build custom multiplex panels for any combination of analytes. U-PLEX Development Packs include U-PLEX Plates, Linkers, Stop Solution, and Read Buffer T. All development packs are available in 1, 5, and 25-plate pack sizes. You can choose the appropriate Development Pack according to the number of assays you plan to multiplex, e.g., use a U-PLEX 4-Assay Development Pack if you are developing a 4-plex assay.

Description	Catalog No.
U-PLEX 2-Assay Development Pack	K15227N
U-PLEX 3-Assay Development Pack	K15228N
U-PLEX 4-Assay Development Pack	K15229N
U-PLEX 5-Assay Development Pack	K15230N
U-PLEX 6-Assay Development Pack	K15231N

Description	Catalog No.
U-PLEX 7-Assay Development Pack	K15232N
U-PLEX 8-Assay Development Pack	K15233N
U-PLEX 9-Assay Development Pack	K15234N
U-PLEX 10-Assay Development Pack	K15235N

Note: R-PLEX assays can be combined with U-PLEX assays to build multiplex panels. View the R-PLEX Assay Designer at www.mesoscale.com/R-PLEX to customize your multiplex panel.

Buffers:

Description	Catalog No.
MSD GOLD Read Buffer (200 mL)	R92TG-1
MSD Wash Buffer (20X, 100 mL)	R61AA-1
MSD Tris Wash Buffer (10X, 200 mL)	R61TX-2

Diluent Compatibility

The R-PLEX Human 4-1BB/TNFRSF9 Antibody Set has been tested with the following diluent pair(s). The primary pair was used for generating the data shown in the Assay Performance section. Alternate diluent pairs may be considered based on the sample type or for compatibility with other assays when developing multiplexed assays.

Tested Diluent Pair	Assay Diluent		Antibody Diluent	
	Description	Catalog No.	Description	Catalog No.
Primary	Diluent 7	R54BB	Diluent 11	R55BA
Alternate 1	Diluent 2	R51BB	Diluent 3	R50AP
Alternate 2	Diluent 43	R50AG	Diluent 3	R50AP

To run five plates, 50 mL of assay diluent and 40 mL of antibody diluent are required when assaying samples that are diluted up to 10-fold (40 samples per plate, run in duplicate). Additional assay diluent is necessary for samples that are diluted greater than 10-fold. Diluent 100 may be used in place of assay diluent for samples that require high dilution. Testing of different diluents can help optimize assays for specific experimental conditions. MSD offers a range of assay and antibody diluents for separate purchase. Please view our website at www.mesoscale.com/R-PLEX for more details on compatible diluents for R-PLEX assays.