

# R-PLEX™ Antibody Set

## Human HAVCR2/TIM-3

Cat. No: F219B-3, 5-plate size

F219B-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](http://www.mesoscale.com/support)

### Scientific Support

Phone: 1-240-314-2798  
Email: ScientificSupport@mesoscale.com  
[www.mesoscale.com/support](http://www.mesoscale.com/support)

### Company Address

MESO SCALE DISCOVERY®  
A division of  
Meso Scale Diagnostics, LLC.  
1601 Research Boulevard  
Rockville, MD 20850-3173 USA

[www.mesoscale.com](http://www.mesoscale.com)®

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

Contents and Storage	Description	No. of vials	Vol. /vial	Storage
	Human HAVCR2/TIM-3 Calibrator, 20X	5	50 µL	≤-70°C
	Biotin Human HAVCR2/TIM-3 Capture Antibody	1	1,250 µL	2-8°C
	SULFO-TAG™ Human HAVCR2/TIM-3 Detection Antibody, 100X	1	375 µL	2-8°C

**Note:** Calibrators and antibodies are shipped separately.

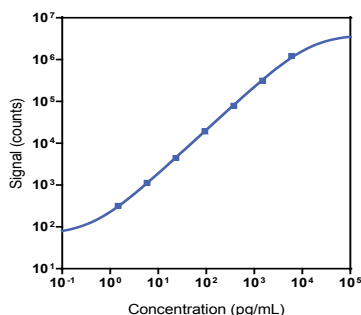
R-PLEX Antibody Sets provide an expanded menu of electrochemiluminescence assays for biomarker discovery and development. The sets include a matched biotinylated capture and SULFO-TAG conjugated detection antibody pair and calibrator for the quick and easy development of highly sensitive immunoassays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

Hepatitis A virus cellular receptor 2 (HAVCR2, T cell Immunoglobulin and Mucin-domain containing protein 3, TIM-3) is a cell surface receptor of the TIM family and an immune checkpoint molecule. Along with PD-1 and LAG3, HAVCR2/TIM-3 mediates CD8+ T cell exhaustion. HAVCR2/TIM-3-expressing CD4+ T cells aid in the regulation of macrophage activation. HAVCR2/TIM-3 is activated by galectin 9, leading to an intracellular influx of calcium, which in turn induces apoptosis. This suppresses Th1 and Th17 cells and ultimately results in immune tolerance. HAVCR2/TIM-3 can also be activated by phosphatidyl serine, high mobility group box 1 (HMGB1), and carcinoembryonic antigen-related cell adhesion molecule 1 (CEACAM1), which can lead to suppression of dendritic cell activity (phosphatidyl serine) and suppression of innate immune responses (HMGB1). HAVCR2/TIM-3 is upregulated in a number of cancers, including lung, gastric, head and neck cancers, melanoma, and lymphoma.

### 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 HAVCR2/TIM-3 Antibody Set tested on MSD's U-PLEX platform using Diluent 43 as assay diluent and Diluent 3 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	0.45 pg/mL

Representative information is presented above.

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](http://www.mesoscale.com/R-PLEX-documents).

### Sample Dilution

The R-PLEX Human HAVCR2/TIM-3 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 HAVCR2/TIM-3 expressed in mouse cell line
Antibodies	Capture antibody - rat monoclonal, 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 1, 5, 30, 120, and 510 plate sizes.

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](http://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 HAVCR2/TIM-3 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 43	R50AG	Diluent 3	R50AP
Alternate 1	Diluent 2	R51BB	Diluent 3	R50AP
Alternate 2	Diluent 7	R54BB	Diluent 11	R55BA

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](http://www.mesoscale.com/R-PLEX) for more details on compatible diluents for R-PLEX assays.