Discover how BioLegend tools can support your SARS-CoV-2 research
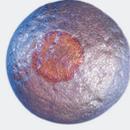
LEARN MORE

Productos y kits para la caracterización, Monitorización mediante Cytometria de flujo, Analisis anti-virales y Biomarcadores

Clicar aquí para ver ir a la web y descubrir los productos.

SARS-CoV-2 Workflow
Click on a section in the image to scroll down to your area of interest.
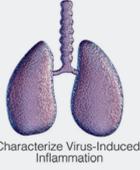
Characterize Virus-Induced Inflammation

Monitor Cellular Response

Analyze Anti-Viral Pathways

Biomarker Discovery and Monitoring

Tools for SARS-CoV-2 Research

BioLegend®
Enabling Legendary Discovery™

Characterize Virus-Induced Inflammation

SARS-CoV-2 causes the disease COVID-19, which can result in inflammation. We provide a number of tools for researchers to detect and characterize this inflammation. Our ELISA Sets and Kits are trusted to accurately quantitate cytokine and chemokine levels, while our LEGENDplex™ kits offer a flow cytometry-based method to analyze up to 13 different targets simultaneously.

Featured ELISA Kits and Sets

Interferons

Featured LEGENDplex™ Kits

Human

Anti-Virus Response Panel	Acute Phase Panel 1	Cytokine Panel 2	Immune Checkpoint Panel 1
Inflammation Panel 1 and 2	B Cell Panels	Essential Immune Response	Immunoglobulin Isotyping
Proinflammatory Chemokine	CD8/NK Panel	Panel	Panel
Panel		Free Active/Total TGF-β1	Macrophage/Microglia Panels
		Panel	T Helper Cytokine Panels

Mouse

Anti-Virus Response Panel	B Cell Panel	Immunoglobulin Isotyping
Inflammation Panel	Cytokine Panel 2	Panel
Proinflammatory Chemokine	Free Active/Total TGF-β1	Macrophage/Microglia Panel
Panel	Panel	T Helper Cytokine Panel
		Version 2

Analyze Anti-Viral Pathways

Understanding the anti-viral signaling pathways that respond to infection by SARS-CoV-2 is critical to the development of novel therapeutics. We offer many antibodies to detect important mediators involved in immune pathways. These include recognition of viral pathogens by Toll-like receptors, downstream signaling through STAT and NF-κB signaling, and ultimately, the production of interferons through IRF-mediated transcription. Our anti-viral pathway reagents have been validated across a variety of applications, including western blotting, flow cytometry, functional assays, ChIP, and microscopy.
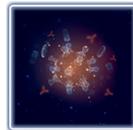
Featured Targets

IRF Transcription Factors
IRF sampler kit
View all IRF-related antibodies.

STAT Signaling
STAT1
STAT3
STAT6
View all STAT antibodies.

IKK/NF-κB Signaling
IKKα
IKKβ
IKKγ
NF-κB
View all IKK/NF-κB Signaling antibodies.

Matrix Metalloproteinases (MMPs)
MMP-2
MMP-8
MMP-9

Toll-like Receptors (TLRs)
TLR2
TLR4
TLR6
TLR8
TLR9
View all TLR antibodies.

TLR Signaling Proteins
Caspase 1
Caspase 11
MyD88
TRIF
Tab1
View all TLR Signaling antibodies.

Inflammasome
ASC
AIM2
Caspase 1
Cathepsin B
IL-1β
mTOR
NLRC4
NALP/NLRP1
View all inflammasome-related products.

Extracellular Matrix
Beta-Catenin
CD44
E-Cadherin
Ezrin

Monitor Cellular Response

The cellular response to SARS-CoV-2 is key to the induced cytokines, inflammation, and recovery. Players include CD8⁺ T cells that possess potent cytotoxic abilities, and CD4⁺ Th1 cells that are known for their role in supporting anti-viral immunity and sparking an adaptive immune response. We provide reliable reagents for phenotyping and isolating cell populations of interest, including T cells, B cells, NK cells, monocytes, and more.
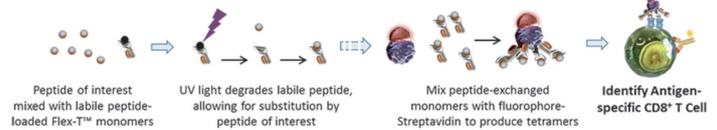
Flow Cytometry: our comprehensive portfolio will help characterize any cell type, including those relevant to study anti-viral and SARS-CoV-2 immune responses.

TotalSeq™ Reagents for Proteogenomics can be used to characterize single cells in a high throughput manner. These antibody-oligo conjugates contain unique nucleotide barcodes that integrate seamlessly into existing workflows, enabling you to simultaneously analyze protein and RNA expression on a single cell level. TotalSeq™ is available as individual or pre-titrated, lyophilized antibody cocktails, or hashtags for multiplexing samples. Specifically, they can be used to enable:

- Multiomic analysis (Protein + RNA) of immune cells and lung alveolar lavage in COVID-19 patients (TotalSeq™-A or B in combination with 10x Genomics Single Cell Expression Solution (3' assay)).
- TCR/BCR repertoire profiling in COVID-19 patients for immunotherapy and vaccine development (TotalSeq™-C with 10x Genomics Immune Profiling Solution (5' assay)).

Flex-T™ MHC Tetramers allow peptides of interest to be swapped into the binding site. This can help track the T cell response when identifying potential vaccine candidates. View Flex-T™ reagents.

Peptide of interest mixed with labile peptide-loaded Flex-T™ monomers ⇒ UV light degrades labile peptide, allowing for substitution by peptide of interest ⇒ Mix peptide-exchanged monomers with fluorophore-Streptavidin to produce tetramers ⇒ **Identify Antigen-specific CD8⁺ T Cell**

Cell Differentiation: For mouse cells, we provide a full protocol on how to differentiate Th1 cells with our reagents, including T cell-stimulating antibodies for CD3 and CD28, recombinant proteins (IL-2, IL-12p70) and neutralizing antibodies for IL-4 to prevent Th2 differentiation.

View the Th1 activation bundle.
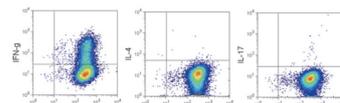
Naïve BALB/c mice CD4⁺ T cells were polarized with anti-mouse CD3, anti-mouse CD28, IL-12, IL-2, and anti-mouse IL-4 for 5 days and fresh media was added on day 3. On day 5, the cells were re-stimulated with PMA and ionomycin in the presence of monensin for 5 hours. Cells were surface stained with CD4 PerCP-Cy5.5, fixed, permeabilized and stained with IFN-γ FITC, IL-4 APC, and IL-17 PE.

Biomarker Discovery and Monitoring

To better understand the changes that SARS-CoV-2 can induce in cells (both through infection and the resultant host immune response), it is important to be able to screen cells for both protein and gene expression levels.

To support this need, our TotalSeq™ reagents provide an unprecedented resolution. The capacity to correlate protein expression with RNA and TCR/BCR profiling in single cells simultaneously can greatly accelerate the discovery of therapeutically relevant biomarkers. View our TotalSeq™ products.
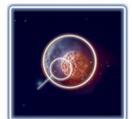
In addition, LEGENDScreen™ kits offer a rapid screening method for cellular samples. Kits include several 96-well plates with each well containing a different lyophilized PE-conjugated antibody useful for staining cells. Our human kit contains antibodies for 361 cell surface markers and 10 isotype controls. Our mouse kit contains 255 antibodies for cell surface markers and 11 isotype controls. View our LEGENDScreen™ products.

References:

1. Zhou, P. et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. Nature. 2020. 579: 270.

2. Hoffmann, M. et al. SARS-CoV-2 Cell Entry Depends on ACE2 and TMPRSS2 and Is Blocked by a Clinically Proven Protease Inhibitor. Cell. 2020. 181:1.

3. Gordon, D.E. et al. A SARS-CoV-2-Human Protein-Protein Interaction Map Reveals Drug Targets and Potential Drug Repurposing. bioRxiv. 2020.