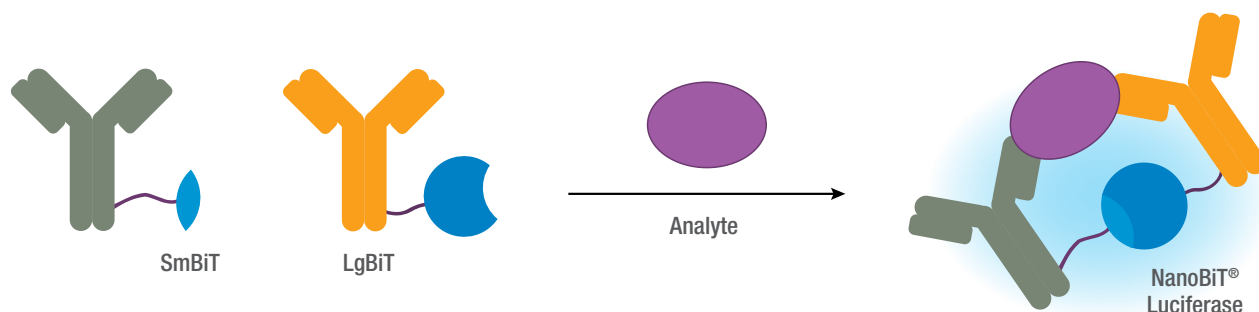


# Lumit™ Immunoassay Portfolio

## Immunotherapy Applications



The Lumit™ Technology enables bioluminescence-based detection of specific antigens or antibodies, simplifying immunoassay protocols and speeding time to results. Based on the award-winning NanoBiT® complementation system, the Lumit™ Technology powers sensitive and accurate immunoassays for research and clinical applications.

Lumit™ Immunoassays provide a faster, more reliable alternative to ELISAs, eliminating the variability associated with multiple wash steps, and providing the convenience of a simple and sensitive luminescent detection method.

### Assay Advantages

#### Fast, no-wash protocol:

Time to results in 70 minutes or less with a simple add-mix-measure protocol

#### Large dynamic range:

Reduce sample dilutions needed with assays that are linear over 4 logs

#### Perform directly on cell culture samples:

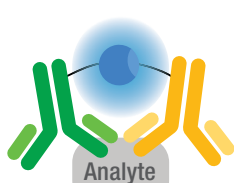
Assay cell supernatants directly on cell plates; no transfer step required

#### Requires only a luminometer:

No specialized instrument required

### Direct

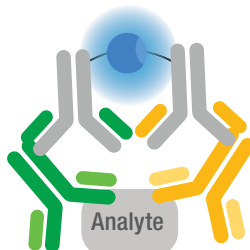
NanoBiT® Luciferase



- 1° antibodies labeled w/ NanoBiTs
- Maximizes number of Ab pairs can test for assay development

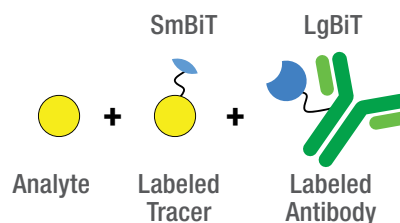
### Indirect

NanoBiT® Luciferase

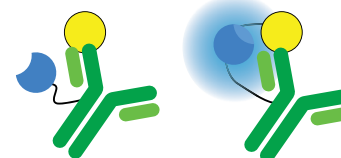


- 2° antibodies labeled w/ NanoBiTs
- Universal approach for use with unlabeled 1° antibodies

### Competitive Binding



NanoBiT® Luciferase



Requires antibody and tracer labeling

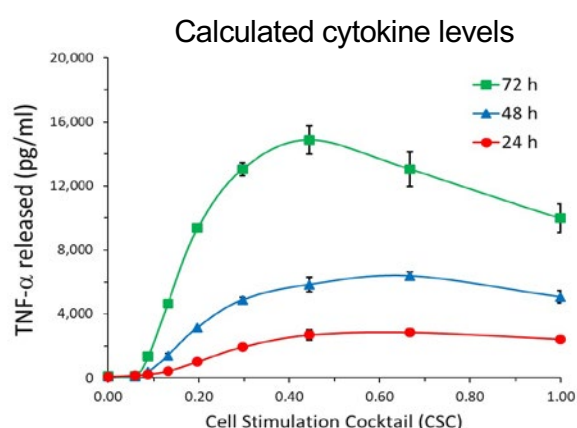
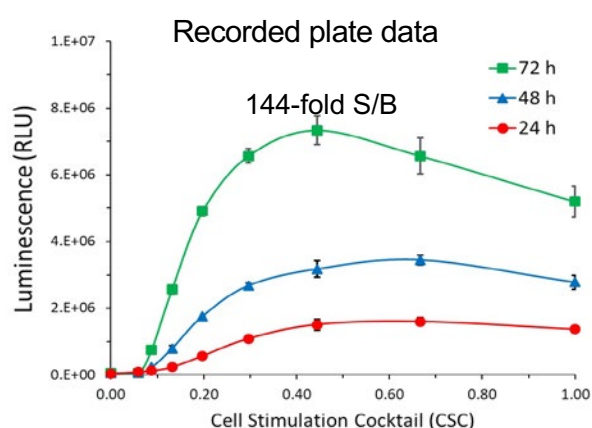
## Assay Performance Characteristics

Assay	Dynamic Range	LOD
Lumit™ HMGB1 (Human/Mouse) Immunoassay	1 ng/ml – 729 ng/ml	~1 ng/ml
Lumit™ IFN- $\gamma$ (Human) Immunoassay	2.4 pg/ml – 10 ng/ml	~2 pg/ml
Lumit™ IL-1 $\beta$ (Human) Immunoassay	22 pg/ml – 40 ng/ml	10 pg/ml
Lumit™ IL-1 $\beta$ (Mouse) Immunoassay	11 pg/ml – 20 ng/ml	8 pg/ml
Lumit™ IL-2 (Human) Immunoassay	13.6 pg/ml – 25 ng/ml	~13 pg/ml
Lumit™ IL-4 (Human) Immunoassay	13.6 pg/ml – 25 ng/ml	~13 pg/ml
Lumit™ IL-6 (Human) Immunoassay	6.1 pg/ml – 25 ng/ml	~6 pg/ml
Lumit™ IL-10 (Human) Immunoassay	18.2 pg/ml – 25 ng/ml	~18 pg/ml
Lumit™ Insulin Immunoassay	58 pg/ml – 46.4 ng/ml	58 pg/ml
Lumit™ Glucagon Immunoassay	3.4 pg/ml – 6.8 ng/ml	3.4 pg/ml
Lumit™ TNF- $\alpha$ (Human) Immunoassay	6.1 pg/ml – 25 ng/ml	~6 pg/ml

Limit of Detection (LOD) = 3 Standard deviations above background

LOD has not been formally calculated for all assays

## Broad linear range mitigates need for sample dilution: Lumit™ TNF- $\alpha$ (Human) Immunoassay



Human PBMCs (100,000 cells/well) were treated with cell stimulation cocktail for indicated times.

Lumit™ TNF- $\alpha$  Immunoassay reagents were added directly to treated cells. Sample dilutions are not required over response levels observed (60pg/ml to 15,000pg/ml secreted TNF- $\alpha$ ).

## Catalog Information

Lumit™ Labeling and Detection Kits	Cat. #
Lumit™ Immunoassay Labeling System <i>Perform labeling of antibodies with Lumit™ reagents to create your own Lumit™ immunoassay for additional targets</i>	VB2500
Lumit™ Immunoassay Detection Reagent A <i>Detection reagent used with labeled Lumit™ antibodies</i>	VB2010
Lumit™ Immunoassay Detection Reagent B <i>Detection reagent used with labeled Lumit™ antibodies in cell-based applications</i>	VB4050
Lumit™ Immunoassay Cellular Systems	Cat. #
Lumit™ Immunoassay Cellular System – Starter Kit <i>Two sets of labeled secondary antibodies and reagents required to perform Lumit™ assays with customer-provided primary antibodies. Also available as separate Set 1 (W1201) and Set 2 (W1331) configurations.</i>	W1220
Lumit™ Immunoassay Lysis and Detection Kit <i>Includes reagents required to lyse cells and detect luminescence in a Lumit™ cellular assays with customer-provided primary antibodies.</i>	W1231
Cytokine Immunoassays	Cat. #
Lumit™ IL-1β (Human) Immunoassay	W6010
Lumit™ IL-1β (Mouse) Immunoassay	W7010
Lumit™ IFN-γ (Human) Immunoassay	CS2032B03
Lumit™ IL-2 (Human) Immunoassay	CS2032B01
Lumit™ IL-6 (Human) Immunoassay	CS2032B02
Lumit™ TNF-α (Human) Immunoassay	CS2032B04
Lumit™ IL-4 (Human) Immunoassay	CS2032B05
Lumit™ IL-10 (Human) Immunoassay	CS2032B06
Metabolic Regulators Immunoassays	Cat. #
Lumit™ Insulin Immunoassay Kit	CS3037A05
Lumit™ Glucagon Immunoassay Kit	CS3037A06

Neonatal Fc Receptor Binding	Cat. #
Lumit™ FcRn Binding Immunoassay	W1151
Inflammation Markers	Cat. #
Lumit™ HMGB1 (Human/Mouse) Immunoassay	CS3030B01
SARS-CoV-2	Cat. #
Lumit™ SARS-CoV-2 Spike RBD:hACE2 Immunoassay (research use only)	CS3163B01

## Peer-Reviewed Citations

### Assays Used: Metabolic Regulators

- Reductive TCA cycle metabolism fuels glutamine- and glucose-stimulated insulin secretion  
*Zhang, G. et al. (2020) Cell Metabolism (pre-proof)*
- GIP mediates the incretin effect and glucose tolerance by dual action on α cells and β cells  
*El, K. et al. (2021) Science Advances 7(11) eabf1947*

### Assays Used: SARS-CoV-2 Antibody Test

- Predicting the efficacy of COVID-19 convalescent plasma donor units with the Lumit Dx anti-receptor binding domain assay  
*Janaka, S. et al. (2021) medRxiv (preprint)*

### Promega-authored Citations

- A homogeneous bioluminescent immunoassay to probe cellular signaling pathway regulation  
*Hwang, B. et al. (2020) Communications Biology 3: 8*
- Development of a novel homogeneous immunoassay using the engineered luminescent enzyme NanoLuc for the quantification of the mycotoxin fumonisin B1  
*Alsulami, T. et al. (2021) Biosensors and Bioelectronics 177, 112939*

Explore the Portfolio at

[www.Promega.com/Lumit](http://www.Promega.com/Lumit)



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