abcam

ab290008

Human Interferon gamma Antibody Pair - BSA and Azide Free

Recombinant

Key facts

Assay type	ELISA set
Reactive species	Human
Range	3.9 - 500 pg/mL
Assay Platform	Reagents

What's included?

10 x 96 Tests

Components

ab289984

ab289984 - Human Interferon gamma Capture Antibody (unconjugated)

1 x 100 µg

ab289983

ab289983 - Human Interferon gamma Detector Antibody (unconjugated)

1 x 100 µg

Target data

See full target information IFNG

Function Type II interferon produced by immune cells such as T-cells and NK cells that plays crucial roles in antimicrobial, antiviral, and antitumor responses by activating effector immune cells and enhancing antigen presentation (PubMed:16914093, PubMed:8666937). Primarily signals through the JAK-STAT pathway after interaction with its receptor IFNGR1 to affect gene regulation (PubMed:8349687). Upon IFNG binding, IFNGR1 intracellular domain opens out to allow association of

downstream signaling components JAK2, JAK1 and STAT1, leading to STAT1 activation, nuclear translocation and transcription of IFNG-regulated genes. Many of the induced genes are transcription factors such as IRF1 that are able to further drive regulation of a next wave of transcription (PubMed:16914093). Plays a role in class I antigen presentation pathway by inducing a replacement of catalytic proteasome subunits with immunoproteasome subunits (PubMed:8666937). In turn, increases the quantity, quality, and repertoire of peptides for class I MHC loading (PubMed:8163024). Increases the efficiency of peptide generation also by inducing the expression of activator PA28 that associates with the proteasome and alters its proteolytic cleavage preference (PubMed:11112687). Up-regulates as well MHC II complexes on the cell surface by promoting expression of several key molecules such as cathepsins B/CTSB, H/CTSH, and L/CTSL (PubMed:7729559). Participates in the regulation of hematopoietic stem cells during development and under homeostatic conditions by affecting their development, quiescence, and differentiation (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	+4°C

Notes

ab290008 is a matched pair of unconjugated **recombinant rabbit monoclonal** capture and detection antibodies used to quantify Human/Mouse/Rat Interferon gamma in sandwich ELISAs and many other pair-based applications.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.
The pair can be used in variety of assays and platforms including but not limited to:

- Sandwich ELISA
- FRET/TR-FRET/HTRF
- Meso Scale Discovery® (MSD®)
- Bead-based assays
- AlphaLISA®/AlphaScreen®
- DELFIA® immunoassays
- Simoa® and Single Molecule Counting (SMC™) immunoassays
- Multiplex

Our antibody pairs are supplied in a carrier-free format that is conjugation-ready:

Buffer free of BSA, sodium azide, and glycerol for higher conjugation efficiency.
Concentration of ~1 mg/ml as measured by the protein A280 method.
We can label antibodies for you: get in touch today to discuss how we can help accelerate your assay development with custom conjugation services.

Pairs are screened in biological samples, including plasma and serum, to ensure specificity in complex samples.

Please note:

The recommended antibody orientation is based on internal optimization in sandwich ELISA. Antibody orientation is assay dependent and needs to be optimized for each assay type.

The range provided for this antibody pair is based on initial sandwich ELISA validation data using recombinant protein. Performance and range of the antibody pair will depend on the specific characteristics of your assay, including standard protein selection.

We guarantee the product works in sandwich ELISA, but we do not guarantee the sensitivity or dynamic range of the antibodies in other assays.

Antibody properties:

Capture antibody: recombinant rabbit monoclonal (unconjugated) – 100 µg

Detector antibody: recombinant rabbit monoclonal (unconjugated) - 100 µg

Concentration: ~1 mg/ml

Storage buffer: 100% PBS

Form: Liquid

Isotype: IgG

Recombinant monoclonal antibodies offer several advantages including:

- High batch-to-batch consistency and reproducibility

- Improved sensitivity and specificity

- Long-term security of supply

- Animal-free production

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SMC is a registered trademark of Merck KGaA, Darmstadt, Germany.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Interferon gamma (IFN-γ) also known as type II interferon is a cytokine that plays an important role in immune response. IFN-γ has a molecular weight of about 17 kDa and is produced by T cells and natural killer (NK) cells. IFN-γ binds to the interferon gamma receptor initiating a signaling cascade that activates various genes involved in immune functions. It is expressed mainly in activated immune cells within lymphoid tissues and inflamed sites during immune responses.
Biological function summary	This cytokine is significant in promoting macrophage activation enhancing the antigen presentation process and boosting the antimicrobial activity of phagocytes. IFN-γ is not part of a larger protein complex but works as a homodimer in signal transduction. Its production heightens the Th1 immune response by stimulating the differentiation of naïve T cells into Th1 cells which is essential for effective cellular immunity.
Pathways	IFN-γ is integrally involved in the JAK-STAT signaling pathway alongside another critical cytokine Interleukin-12. This pathway further amplifies the immune response by regulating the expression of genes associated with cellular defense mechanisms. IFN-γ also interacts with the NF-kB pathway influencing inflammation and the activation of further immune responses. These interactions show a network of cooperativity with proteins like STAT1 and NF-kB essential for executing its biological roles.
Associated diseases and disorders	IFN-γ is linked to autoimmune diseases such as rheumatoid arthritis and multiple sclerosis where its elevated levels can exacerbate inflammatory processes. It connects to other proteins like TNF-alpha in promoting the inflammatory cascade. Moreover lower levels of IFN-γ are associated with a heightened risk of infections like tuberculosis demonstrating its vital role in pathogen defense. Therefore understanding IFN-γ and its interactions can be key in developing therapeutic approaches against these conditions.

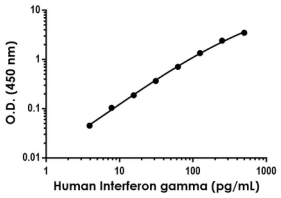
Product promise

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

1 product image



Sandwich ELISA - Human Interferon gamma Antibody Pair - BSA and Azide Free (ab290008)

Sandwich ELISA of ab290008 with the capture antibody dilution at 2 µg/mL and detector antibody dilution at 0.5 µg/mL.

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