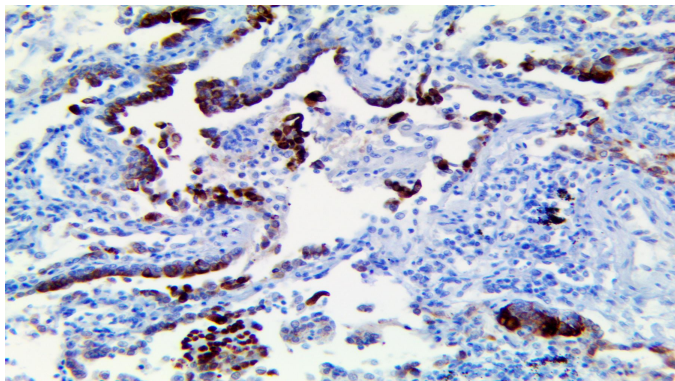


# IFN-Gamma

**Clone:** BSB-161  
Mouse Monoclonal



*Inset: IHC of IFN- $\gamma$  on a FFPE SARS-CoV-2 Infected Lung Tissue*

## Intended Use

For In Vitro Diagnostic Use.

This antibody is intended for use in Immunohistochemical applications on formalin-fixed paraffin-embedded tissues (FFPE), frozen tissue sections, and cell preparations. Interpretation of results should be performed by a qualified medical professional.

## Immunogen

Recombinant human IFN- $\gamma$  protein.

## Summary and Explanation

IFN- $\gamma$  is a dimerized soluble cytokine and the only member of the type II interferon. In humans, IFN- $\gamma$  is encoded by the *IFNG* gene and is critical for innate and adaptive immunity against viral, some bacterial and protozoal infections. IFN- $\gamma$  is produced predominantly by natural killer and natural killer T cells as part of the innate immune response, and by CD4 Th1 and CD8 cytotoxic T lymphocytes effector T cells once antigen-specific immunity develops as part of the adaptive immune response. IFN- $\gamma$  is also produced by non-cytotoxic innate lymphoid cells.

IFN- $\gamma$  interacts with its receptors interferon gamma receptor 1 and interferon gamma receptor 2 and activates them. IFN- $\gamma$  binding to the receptors activates the JAK-STAT pathway. IFN- $\gamma$  also binds to the glycosaminoglycan heparan sulfate and inhibits its biological activity. IFN- $\gamma$  is used to treat Chronic Granulomatous Disease and Osteopetrosis, also has potential as cancer immunotherapy to improve survival in Bladder Carcinoma, Melanoma, and Ovarian Carcinoma.

|                      |   |                           |                  |
|----------------------|---|---------------------------|------------------|
| <b>Antibody Type</b> | Mouse Monoclonal  | <b>Clone</b>              | BSB-161          |
| <b>Isotype</b>       | IgG2a   | <b>Reactivity</b>         | Paraffin, Frozen |
| <b>Localization</b>  | Cytoplasmic, Membranous   | <b>Species Reactivity</b> | Human            |
| <b>Control</b>       | Stomach, Fallopian Tube, Colon, Lung Adenocarcinoma, Ductal Breast Carcinoma, Pancreatic Adenocarcinoma |                           |                  |
| <b>Application</b>   | Kidney and Urothelial Cancer, Melanoma and Skin Cancer, Ovarian Cancer                                  |                           |                  |

## Presentation

Anti-IFN- $\gamma$  is a Mouse Monoclonal antibody derived from cell culture supernatant that is concentrated, dialyzed, filter sterilized and diluted in buffer pH 7.5, containing BSA and sodium azide as a preservative.

| <i>Catalog No.</i> | <i>Presentation</i> | <i>Dilution</i> | <i>Volume</i> |
|--------------------|---------------------|-----------------|---------------|
| BSB-3734-3         | Predilute           | Ready-to-Use    | 3.0 mL        |
| BSB-3734-7         | Predilute           | Ready-to-Use    | 7.0 mL        |
| BSB-3734-15        | Predilute           | Ready-to-Use    | 15.0 mL       |
| BSB-3734-01        | Concentrate         | 1:50-1:200      | 0.1 mL        |
| BSB-3734-05        | Concentrate         | 1:50-1:200      | 0.5 mL        |
| BSB-3734-1         | Concentrate         | 1:50-1:200      | 1.0 mL        |

## Control Slides Available

| <i>Catalog No.</i> | <i>Quantity</i> |
|--------------------|-----------------|
| BSB-9232-CS        | 5 slides        |

**Storage** Store at 2-8°C (Control Slides: Store at 20-25°C)

## Precautions

- For professional users only. Results should be interpreted by a qualified medical professional.
- This product contains <0.1% sodium azide (NaN<sub>3</sub>) as a preservative. Ensure proper handling procedures are used with this reagent.
- Always wear personal protective equipment such as a laboratory coat, goggles, and gloves when handling reagents.
- Dispose of unused solution with copious amounts of water.
- Do not ingest reagent. If reagent is ingested, seek medical advice immediately.
- Avoid contact with eyes. If contact occurs, flush with large quantities of water.
- Follow safety precautions of the heating device used for epitope retrieval (TintoRetriever Pressure Cooker or similar).
- For additional safety information refer to Safety Data Sheet for this product.
- For complete recommendations for handling biological specimens, please refer to the CDC document, "Guidelines for Safe Work Practices in Human and Animal Medical Diagnostic Laboratories" (see References in this document).

## Stability

**This product is stable up to the expiration date on the product label.**

Do not use after expiration date listed on the package label. Temperature fluctuations should be avoided. Store appropriately when not in use, and avoid prolonged exposure to room temperature conditions.

## Specimen Preparation

**Paraffin sections:** The antibody can be used on formalin-fixed paraffin-embedded (FFPE) tissue sections. Ensure tissue undergoes appropriate fixation for best results. Pre-treatment of tissues with heat-induced epitope retrieval (HIER) is recommended using Bio SB ImmunoDNA Retriever with Citrate (BSB 0020-BSB 0023), ImmunoDNA Retriever with EDTA (BSB 0030-BSB 0033), or ImmunoDNA Digestor (BSB 0108-0112). See reverse side for complete protocol. Tissue should remain hydrated via use of Bio SB Immuno/DNA Washer solutions (BSB 0029 & BSB 0042).

**Frozen sections and cell preparations:** The antibody can be used on acetone-fixed frozen sections and acetone-fixed cell preparations.

### IHC Protocol

1. Cut and mount 3-5 micron formalin-fixed paraffin-embedded tissues on positively charged slides such as Bio SB Hydrophilic Plus Slides (BSB 7028).
2. Air dry for 2 hours at 58° C.
3. Deparaffinize, dehydrate and rehydrate tissues.
4. Subject tissues to heat induced epitope retrieval (HIER) using a suitable retrieval solution such as ImmunoDNA Retriever with Citrate (BSB 0020-BSB 0023) or EDTA (BSB 0030-BSB 0033).
5. Any of three heating methods may be used:

#### a. TintoRetriever Pressure Cooker or Equivalent

Place tissues/slides in a staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA and place on trivet in the pressure cooker. Add 1-2 inches of distilled water to the pressure cooker and turn heat to high. Incubate for 15 minutes. Open and immediately transfer slides to room temperature.

#### b. TintoRetriever PT Module or Water Bath Method

Place tissues/slides in a pre-warmed staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA at 95°-99° C. Incubate for 30-60 minutes.

#### c. Conventional Steamer Method

- Place tissues/slides in a pre-warmed staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA in a steamer, cover and steam for 30-60 minutes.
6. After heat treatment, transfer slides in ImmunoDNA Retriever with Citrate or EDTA to room temperature and let stand for 15-20 minutes.
  7. For manual IHC, perform antibody incubation at ambient temperature. For automated IHC methods, perform antibody incubation according to instrument manufacturer's instructions.
  8. Wash slides with ImmunoDNA washer or DI water.
  9. Continue IHC protocol. Wash slides between each step with ImmunoDNA washer solution.

### Abbreviated Immunohistochemical Protocol

| Step                     | ImmunoDetector AP/HRP | PolyDetector AP/HRP | PolyDetector Plus HRP |
|--------------------------|-----------------------|---------------------|-----------------------|
| Peroxidase/AP Blocker    | 5 min.                | 5 min.              | 5 min                 |
| Primary Antibody         | 30-60 min.            | 30-60 min.          | 30-60 min.            |
| 1st Step Detection       | 10 min.               | 30-45 min.          | 15 min.               |
| 2nd Step Detection       | 10 min.               | Not Applicable      | 15 min.               |
| Substrate- Chromogen     | 5-10 min.             | 5-10 min.           | 5-10 min.             |
| Counterstain / Coverslip | Varies                | Varies              | Varies                |

### Mounting Protocols

For detailed instructions using biodegradable permanent mounting media such as XyGreen PermaMunter (BSB 0169-0174) or organic solvent based resin such as PermaMunter (BSB 0094-0097), refer to PI0174 or PI0097.

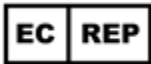







### Product Limitations

Due to inherent variability present in immunohistochemical procedures (including fixation time of tissues, dilution factor of antibody, retrieval method utilized, and incubation time), optimal performance should be established through the use of positive and negative controls. Results should be interpreted by a qualified medical professional.

### References

1. Schoenborn JR, Wilson CB. Regulation of interferon-gamma during innate and adaptive immune responses. *Adv Immunol.* 2007;96:41-101. doi:10.1016/S0065-2776(07)96002-2
2. Artis D, Spits H. The biology of innate lymphoid cells. *Nature.* 2015;517(7534):293-301. doi:10.1038/nature14189
3. Sadir R, Forest E, Lortat-Jacob H. The heparan sulfate binding sequence of interferon-gamma increased the on rate of the interferon-gamma-interferon-gamma receptor complex formation. *J Biol Chem.* 1998;273(18):10919-10925. doi:10.1074/jbc.273.18.10919
4. Todd PA, Goa KL. Interferon gamma-1b. A review of its pharmacology and therapeutic potential in chronic granulomatous disease [published correction appears in *Drugs* 1992 Apr;43(4):442]. *Drugs.* 1992;43(1):111-122. doi:10.2165/00003495-199243010-00008
5. Key LL Jr, Ries WL, Rodriguiz RM, Hatcher HC. Recombinant human interferon gamma therapy for osteopetrosis. *J Pediatr.* 1992;121(1):119-124. doi:10.1016/s0022-3476(05)82557-0
6. U.S. Department of Health and Human Services: Centers for Disease Control and Prevention. Guidelines for Safe WorkPractices in Human and Animal Medical Diagnostic Laboratories. Supplement / Vol. 61, January 6, 2012. <https://www.cdc.gov/mmwr/pdf/other/su6101.pdf>

### Symbol Key / Légende des symboles/Erläuterung der Symbole

|   |  |   |  |   |
|---|--|---|--|---|
|  | QAdvis EAR AB<br>Ideon Science Park<br>Scheelevägen 17<br>SE-223 70 Lund, Sweden                         |  Storage Temperature<br>Limites de température<br>Zulässiger Temperaturbereich                           |  Manufacturer<br>Fabricant<br>Hersteller             |  Catalog Number<br>Référence du catalogue<br>Bestellnummer |
|  | In Vitro Diagnostic Medical Device<br>Dispositif médical de diagnostic in vitro<br>In-Vitro-Diagnostikum |  Read Instructions for Use<br>Consulter les instructions<br>d'utilisation<br>Gebrauchsanweisung beachten |  Expiration Date<br>Utiliser jusque<br>Verwendbar bis |  Lot Number<br>Code du lot<br>Chargenbezeichnung           |