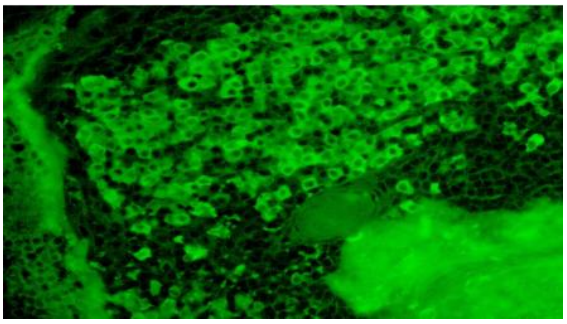
Kappa Light Chains/FITC

Catalog No.	Format	Dilution	Volume
G-3009-3	Prediluted	Ready-to-use	3.0 ml
G-3009-7	Prediluted	Ready-to-use	7.0 ml
G-3009-15	Prediluted	Ready-to-use	15.0 ml
G-3009-05	Concentrated	1:25–1:100	0.5 ml
G-3009-1	Concentrated	1:25–1:100	1.0 ml



Inset: IF of Kappa on FFPE Tonsil Tissue

Product Specifications

- **Antibody Type**: Goat Polyclonal
- **Isotype**: IgG
- **Species Reactivity**: Human
- **Localization**: Cytoplasmic
- **Immunogen**: Purified human Kappa light chains
- **Source**: Goat antiserum

Presentation

The antibody is supplied in Tris buffer (pH 7.3–7.7), with 1% BSA as a stabilizer and <0.1% sodium azide as preservative.

Intended Use

For Research Use Only (RUO). this antibody enables fluorescent microscopy-based detection of Kappa light chains in FFPE tissue. Interpretation should be performed by a pathologist in conjunction with other clinical and histological information.

All test result interpretations must be performed by a qualified medical professional.

Scientific Background

Kappa antibodies detect immunoglobulin light chains on B-cells, both normal and malignant. Strong staining is observed in kappa-positive plasma cells and in cells that absorb external immunoglobulins.
In the diagnosis of B-cell neoplasms, analysing the ratio of kappa to lambda light chains is critical:

- Neoplastic (clonal) populations usually express one light chain type.
- A Kappa: Lambda ≥ 3:1, Lambda: Kappa ≥ 2:1, or ≥75% monoclonal population suggests malignancy.
- In immune complex diseases like lupus nephritis, positive staining is often observed for IgG, IgA, IgM, C3, C1, Kappa, and Lambda.

Product Overview

This antibody is designed for immunofluorescence (IF) applications to detect Kappa light chain proteins in formalin-fixed, paraffin-embedded (FFPE) human tissue. It is suitable for identifying normal or abnormal expression patterns in tissues. Use is restricted to trained laboratory professionals.

Required Materials (Not Included)

- Control tissues (positive/negative)
- Positively charged slides
- Deparaffinization and staining solutions (e.g., xylene, ethanol)
- Heating equipment (e.g., Genebio Solution Digital Antigen Retrieval)
- Epitope retrieval solutions (Citrate or EDTA)
- Mounting media (e.g., Mounting, with or without DAPI)
- Fluorescence microscope with FITC filter

Storage Instructions: Antibody: 2–8°C; Avoid temperature fluctuations and prolonged room temperature exposure.

IF Protocol for FFPE Tissue

1. Mount 3–5 µm tissue sections on charged slides.
2. Dry at 60°C for 1 hour.
3. Deparaffinize and rehydrate through xylene and ethanol gradients.
4. Perform heat-induced epitope retrieval (HIER).
5. Allow slides to cool, then wash with buffer.
6. Apply antibody and incubate for 30–60 minutes in the dark.
7. Rinse with wash buffer.
8. Coverslip using antifade mounting medium.
9. Visualize under a fluorescence microscope.

Note: Prediluted antibody is ready to use. Concentrated forms require user-defined dilution.

Controls and Quality Assurance

- Positive Controls: Tonsil, lymph node
- Negative Controls: Internal negative areas within tissue or control reagents without primary antibody

All testing should include both positive and negative controls to confirm reagent functionality and staining specificity.

Precautions

- For trained professionals only.
- Contains <0.1% sodium azide—handle with appropriate safety precautions.
- Always wear PPE.
- Refer to the Safety Data Sheet and CDC guidelines for biological specimen handling.

Limitations

Due to variable conditions in IHC protocols (e.g., tissue fixation, antibody dilution), each lab should optimize their method using control samples. Only qualified professionals should evaluate results.