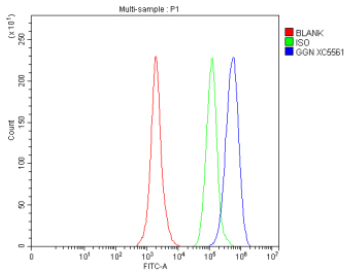
# GGN Antibody / Gametogenetin (FY12724)

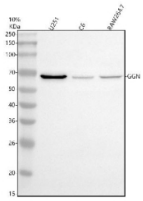
| Catalog No. | Formulation | Size |
|---|---|---|
| FY12724 | Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml | 100 ug |

**Bulk quote request**

| | |
|---|---|
| **Availability** | 1-2 days |
| **Species Reactivity** | Human, Mouse, Rat |
| **Format** | Lyophilized |
| **Host** | Rabbit |
| **Clonality** | Polyclonal (rabbit origin) |
| **Isotype** | Rabbit IgG |
| **Purity** | Immunogen affinity purified |
| **Buffer** | Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4. |
| **UniProt** | Q86UU5 |
| **Applications** | Western Blot: 0.25-0.5ug/ml<br>Flow cytometry: 1-3ug/million cells |
| **Limitations** | This GGN antibody is available for research use only. |




Flow Cytometry analysis of SH-SY5Y cells using anti-GGN antibody. Overlay histogram showing SH-SY5Y cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-GGN antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of GGN using anti-GGN antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human U251 whole cell lysates, Lane 2: rat C6 whole cell lysates, Lane 3: mouse RAW264.7 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-GGN antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. A specific band was detected for GGN at approximately 67 kDa. The expected molecular weight of GGN is ~67 kDa.

## Description

GGN antibody detects Gametogenetin (also known as Gametogenetin protein), a testis-enriched protein that participates in germ cell differentiation and DNA repair during spermatogenesis. Encoded by the GGN gene on chromosome 19q13.33, this protein is predominantly expressed in spermatocytes and spermatids, where it contributes to chromatin organization, meiotic progression, and sperm maturation. Gametogenetin contains multiple coiled-coil domains and nuclear localization sequences, enabling interactions with DNA repair proteins and chromatin-associated complexes. It forms part of a multi-protein network essential for maintaining genome stability during meiosis.

Gametogenetin is highly conserved across mammals and plays a crucial role in spermatogenic cell viability. Studies have shown that GGN interacts with Fanconi anemia proteins and DNA polymerases, suggesting a role in homologous recombination repair. Disruption of GGN function results in defective sperm development and infertility in animal models. Its expression pattern, confined largely to the testis, makes it a useful molecular marker for germ cell differentiation and testicular function. The GGN antibody provides a key reagent for studying reproductive biology, meiotic regulation, and DNA damage response mechanisms in germ cells.

In addition to reproductive functions, low levels of GGN expression have been detected in certain somatic tissues, including brain and kidney, though its physiological significance there remains uncertain. The protein is localized primarily in the nucleus but may also associate with cytoplasmic vesicles during spermiogenesis. Western blot analysis using the GGN antibody identifies a ~70 kilodalton band, while immunohistochemistry reveals nuclear staining in spermatogenic cells within seminiferous tubules. The antibody is useful for distinguishing stages of spermatogenesis and assessing germ cell health in both normal and pathological conditions.

Because GGN interacts with DNA repair proteins, its dysregulation may contribute to genomic instability or subfertility. The GGN antibody enables detailed investigation of gametogenic processes and molecular pathways that maintain genome integrity in reproductive cells. NSJ Bioreagents provides this antibody validated for its applications, ensuring reliable performance in developmental and reproductive biology research.

## Application Notes

Optimal dilution of the GGN antibody should be determined by the researcher.

## Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human GGN was used as the immunogen for the CGN antibody.

## Storage

After reconstitution, the GGN antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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