Anti-hSTING-IgG

Monoclonal antibody against human STING

Catalog code: mabg-hstg

https://www.invivogen.com/anti-hsting

For research use only, not for diagnostic or therapeutic use

Version 18I28-MM

PRODUCT INFORMATION

Contents: 100 µg purified anti-hSTING-IgG provided azide-free and lyophilized
Target: Human STING (hSTING) R232 variant (soluble CDN-binding domain)
Specificity: Reacts with the "wild-type" R232 (R71-G230-**R232**-R293) and HAQ (**H71**-**A230**-R232-**Q293**) hSTING variants. This antibody reacts very poorly with murine STING.
Clonality: Monoclonal antibody
Clone: 3B5
Isotype: Mouse IgG1
Source: Hybridoma
Formulation: 0.2 µm filtered solution in 68 mM phosphate buffer with 91 mM glycine, 5% w/v saccharose and stabilizing agents
Purity: Purified by affinity chromatography with protein G

Antibody resuspension

Add 1 ml of sterile water to obtain a concentration of 0.1 mg/ml

Storage and stability

- Product is shipped at room temperature. Store lyophilized antibody at -20°C. Product is stable for at least 1 year.
- Reconstituted antibody is stable for 1 month when stored at 4°C and for 6 months when stored at -20°C. Avoid repeated freeze-thaw cycles.

Quality control

- The antibody has been validated by Western blot.
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

BACKGROUND

STING (stimulator of interferon genes) is essential for the interferon (IFN) response to cytoplasmic foreign or self-DNA. It directly senses cyclic dinucleotides (CDNs), which are important messengers in bacteria and innate immune agonists in mammals[1]. Several STING variants have been described in the human population. These variants differ in their responses to CDNs. For instance, the variants H232 (R71-G230-**H232**-R293) and HAQ (**H71**-**A230**-R232-**Q293**) are less sensitive to CDNs than the most prevalent variant R232 (R71-G230-**R232**-R293)[2]. Other genetic variations leading to loss or gain of STING functionality have been revealed. For example, the variant S154 (**N154S**) and M155 (**V155M**) contains a gain-of-function mutation resulting in constitutive STING activation and is associated with a chronic autoinflammatory disease, known as STING-associated vasculopathy with onset in infancy (SAVI)[3].

1. Sun L. *et al.*, 2013. Cyclic GMP-AMP synthase is a cytosolic DNA sensor that activates the type I interferon pathway. Science. 339:786-91. **2. Yi G. *et al.*, 2013.** Single nucleotide polymorphisms of human STING can affect innate immune response to cyclic dinucleotides. PLOS One. 8:e77846. **3. Liu Y. *et al.*, 2014.** Activated STING in a vascular and pulmonary syndrome. N Engl J Med. 371:507-18.

DESCRIPTION

Anti-hSTING-IgG is a monoclonal mouse IgG1 antibody against human STING (hSTING), a 40-42 kDa transmembrane protein. This antibody was generated by InvivoGen using DNA vaccination and screened for its ability to bind hSTING using ELISA. This antibody recognizes the most prevalent isoform "wild-type" R232 (R71-G230-**R232**-R293) and HAQ (**H71**-**A230**-R232-**Q293**) hSTING variants. Importantly, no reactivity was observed with the STING-knockout cells. Anti-hSTING-IgG is produced in hybridomas and purified by affinity chromatography with protein G. It can be used to detect human STING using ELISA and Western blot.

APPLICATIONS

- ELISA
- Western blot

METHODS

Indirect ELISA with HRP-conjugated secondary antibody

1. Coat wells of a 96-well plate with 50 µl of recombinant human STING at 1 µg/ml per well and incubate overnight at room temperature (15-25°C). Wash the microtiter plate four times with phosphate-buffered saline containing 0.05% Tween® 20 (PBS-T).
2. Add 100 µl PBS containing 1% bovine serum albumin to each well to prevent non-specific binding and incubate for 1-2 hours at 15-25°C. Wash the microtiter plate four times with PBS-T.
3. Distribute 50 µl of Anti-hSTING-IgG (1-100 ng/ml final concentration) to each well and incubate for 2 hours at 37°C. Wash the microtiter plate four times with PBS-T.
4. Add 50 µl of HRP-conjugated secondary antibody to each well and incubate for 2 hours at 37°C. Wash the microtiter plate four times with PBS-T.
5. Add HRP substrate and read absorbance using a microplate reader.

Western blot

1. Block PVDF membrane for 1 hour at 15-25°C with 3% w/v skimmed milk diluted in Tris buffered saline containing 0.1% Tween® 20 (TBS-T).
2. Incubate overnight at 4°C with Anti-hSTING-IgG (0.2 µg/ml) diluted in TBS-T. Wash three times with TBS-T.
3. Incubate for 1 hour at 15-25°C with HRP-conjugated anti-mouse IgG1 secondary antibody (1:3000 dilution in TBS-T). Wash three times with TBS-T.
4. Use chemiluminescence reagents to detect the STING protein with a specific band at approximately 40 kDa corresponding to the full-length hSTING protein.

RELATED PRODUCTS

Product	Catalog Code
293T-Dual™ hSTING-R232 cells	293d-r232
THP1-Dual™ Cells (express HAQ hSTING variant)	thpd-nfis

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