

# Anti- $\beta$ -Gal-hIgG1 (N298A)

Human IgG1 (N298A) monoclonal antibody against  $\beta$ -galactosidase; Isotype control

Catalog code: bgal-mab12, bgal-mab12-1

<https://www.invivogen.com/anti-beta-gal-higg1-n298a>

For research use only, not for diagnostic or therapeutic use

Version 23L22-MM

## PRODUCT INFORMATION

**Contents:** Anti- $\beta$ -Gal-hIgG1 (N298A) purified monoclonal antibody (mAb) is provided azide-free and lyophilized. It is available in two quantities:

**bgal-mab12:** 200  $\mu$ g

**bgal-mab12-1:** 1 mg

**Specificity:** Targets cells expressing *E. coli*  $\beta$ -galactosidase ( $\beta$ -Gal)

**Clonality:** Monoclonal antibody

**Isotype:** Human IgG1 (N298A)

**Source:** CHO cells

**Formulation:** 0.2  $\mu$ m filtered solution in sodium phosphate buffer with glycine, saccharose and stabilizing agents

**Purity:** Purified by affinity chromatography with protein G

**Antibody resuspension**

*Note:* Ensure you see the lyophilized pellet before resuspension.

- Add 1 ml of sterile water to 200  $\mu$ g to obtain a stock solution at 200  $\mu$ g/ml.

- Add 1 ml of sterile water to 1 mg to obtain a stock solution at 1 mg/ml.

• Gently pipette until completely resuspended.

**Storage and stability**

- Product is shipped at room temperature. Upon receipt, store at -20°C.

- Reconstituted antibody is stable for 1 month when stored at 4°C and for 1 year when aliquoted and stored at -20°C. Avoid repeated freeze-thaw cycles.

**Quality control**

- Absence of binding of Anti- $\beta$ -Gal-hIgG1 (N298A) to human cell lines has been tested using flow cytometry.

- The complete sequence of this antibody has been verified.

- The absence of bacterial contamination, lipoproteins and endotoxins, has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

## DESCRIPTION

Anti- $\beta$ -Gal-hIgG1 (N298A) features the constant region of the human IgG1 (N298A) isotype and the variable region of [Mouse IgG2a Control](#). Mouse IgG2a Control is a mouse IgG2a monoclonal antibody that targets *E. coli*  $\beta$ -galactosidase ( $\beta$ -Gal). This antibody was generated by DNA immunization with a plasmid expressing the  $\beta$ -Gal gene in Swiss mice. Anti- $\beta$ -Gal-hIgG1 (N298A) can be used as an isotype control for human IgG1 antibodies containing the N298A mutation. Antibodies with this mutation contain a modified Fc region designed to limit antibody-dependent cytotoxicity (ADCC) and complement-dependent cytotoxicity (CDC)<sup>1,2</sup>, as this mutation eliminates their ability to bind to human Fc $\gamma$  receptors. Anti- $\beta$ -Gal-hIgG1 (N298A) was generated by recombinant DNA technology. It has been produced in CHO cells and purified by affinity chromatography with protein G.

1. Spigel D. et al., 2013. Clinical activity, safety, and biomarkers of MPDL3280A, an engineered PD-L1 antibody in patients with locally advanced or metastatic non-small cell lung cancer (NSCLC) [ASCO abstract 8008]. J Clin Oncol. 31(15) (suppl). 2. Herbst RS. et al., 2014. Predictive correlates of response to the anti-PD-L1 antibody MPDL3280A in cancer patients. Nature. 515(7528):563-7.

## TECHNICAL SUPPORT

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## ANTIBODY ISOTYPE FAMILY

For your research, InvivoGen provides an anti- $\beta$ -Gal isotype family. This family consists of monoclonal antibodies comprising the variable region of a mouse monoclonal antibody targeting *E. coli*  $\beta$ -galactosidase ( $\beta$ -Gal), named mouse IgG2a control, and the constant region of different human isotypes; IgG1, IgG2, and IgA2, plus a human IgG1 with the N298A mutation and a human IgG4 with an engineered hinge region mutation (S228P). The isotypes differ in their functional locations and effector functions, such as complement-dependent cytotoxicity (CDC) and antibody-dependent cell-mediated cytotoxicity (ADCC), as presented in the table below.

Isotype	Description
Human IgG1	Most abundant IgG present in serum High CDC, high ADCC
Human IgG1 (N298A)	Designed to eliminate binding to human Fc $\gamma$ receptors No CDC, no ADCC
Human IgG2	Second most common IgG present in serum Low CDC, low ADCC
Human IgG4 (S228P)	Designed to prevent exchange of IgG4 molecules No CDC, low ADCC
Human IgA2	Major class in secretions, oligomeric forms, highly resistant to enzymatic degradation. No CDC, low ADCC

## RELATED PRODUCTS

Product	Catalog Code
Anti- $\beta$ -Gal-hIgG1	bgal-mab1
Anti- $\beta$ -Gal-hIgG2	bgal-mab2
Mouse IgG2a Control	mabg2a-ctrl1m

Several antibody isotype families are available, such as Anti-hCD20, Anti-HER2 and Anti-hPD1. For more information visit [www.invivogen.com/biosimilar-antibody-isotypes](http://www.invivogen.com/biosimilar-antibody-isotypes).