



Biotinylated Chicken IgA Polyclonal Antibody

Antigen Affinity-Purified Anti-Chicken IgA Goat Antibody

Catalog Number: GR135001

Background

Immunoglobulin A (IgA) is an antibody that plays a critical role in mucosal immunity. More IgA is produced in mucosal linings than all other types of antibody combined;^[1] between three and five grams are secreted into the intestinal lumen each day.^[2] This accumulates to 75% of the total immunoglobulin produced in the entire body.^[3] IgA has two subclasses (IgA1 and IgA2) and can exist in a dimeric form called *secretory IgA* (sIgA). In its secretory form, IgA is the main immunoglobulin found in mucous secretions, including tears, saliva, colostrum and secretions from the genitourinary tract, gastrointestinal tract, prostate and respiratory epithelium. It is also found in small amounts in blood. The secretory component of sIgA protects the immunoglobulin from being degraded by proteolytic enzymes, thus sIgA can survive in the harsh gastrointestinal tract environment and provide protection against microbes that multiply in body secretions. IgA is a poor activator of the complement system, and opsonises only weakly. Its heavy chains are of the type α .

In the blood, IgA interacts with an Fc receptor called Fc α RI (or CD89), which is expressed on immune effector cells, to initiate inflammatory reactions.^[4] Ligation of Fc α RI by IgA containing immune complexes causes antibody-dependent cell-mediated cytotoxicity (ADCC), degranulation of eosinophils and basophils, phagocytosis by monocytes, macrophages, and neutrophils, and triggering of respiratory burst activity by polymorphonuclear leukocytes.^[4] Polymeric IgA (mainly the secretory dimer) is produced by plasma cells in the lamina propria adjacent to mucosal surfaces. It binds to the polymeric immunoglobulin receptor on the basolateral surface of epithelial cells, and is taken up into the cell via endocytosis. The receptor-IgA complex passes through the cellular compartments before being secreted on the luminal surface of the epithelial cells, still attached to the receptor. Proteolysis of the receptor occurs, and the dimeric IgA molecule, along with a portion of the receptor known as the secretory component, are free to diffuse throughout the lumen.^[5] In the gut, it can bind to the mucus layer on top of the epithelial cells to form a barrier capable of neutralizing threats before they reach the cells. Decreased or absent IgA, termed selective IgA deficiency, can be a clinically significant immunodeficiency. *Neisseria gonorrhoeae* (which causes gonorrhoea), *Streptococcus pneumoniae*, and *Haemophilus influenzae* type B all releases a protease which destroys IgA.

Reference

1. S Fagarasan and T Honjo (2003). Nat. Rev. Immunology **3** (1): 63–72.
2. P. Brandtzaeg, R. Pabst (2004). Trends Immunology **25** (11): 570–577.
3. AJ Macpherson and E Slack. (2007). Curr Opin Gastroenterol. **23** (6): 673–678.
4. CS Kaetzel et al. (1991). Vet. Res. **37** (3): 455–67.
5. CS Kaetzel et al. (1991) Proc Natl Acad Sci USA **88** (19): 8796–8800.

Description

Species reactivity: Chicken

Specificity: Detects Chicken IgA in direct ELISAs and Western blots.

Source: Polyclonal Goat IgG

Purification: Antigen Affinity purified



Biotinylated Chicken IgA Polyclonal Antibody

Antigen Affinity-Purified Anti-Chicken IgA Goat Antibody

Catalog Number: GR135001

Formulation: Lyophilized from 50 µg biotinylated chicken IgA polyclonal antibody containing sterile Tris-buffered saline, pH 7.3 (20 mM Trizma base and 150 mM NaCl).

Application

Reconstitution: Reconstitute at 0.2 mg/ml in sterile PBS

Recommended concentration:

Western blot-0.2-0.5 µg/ml

Immunocytochemistry-5-15 µg/ml

ELISA: 0.2-0.5 µg/ml

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 1 month from date of receipt, 4 °C, reconstituted.
- 6 months from date of receipt, -20°C to -70°C, reconstituted.

Related products

1. GR238016 50 ml Reagent Reservoir, 100/case, 5 packs/case (pack of 20)
2. GR238004 Tissue Culture 96-well Microplate, individually packed, Case of 50
3. GR238019 1.5 ml Microcentrifuge tube with screw cap and free-standing, pack of 500
4. GR238007 125 ml leak-resistant HDPE bottle, colorless, pack of 24
5. GR238002 Microplate 12x8-Well Strip High Binding, Case of 50
6. GR238003 Microplate 12x8-Well Strip Medium Binding, Case of 50
7. GR238032 42592 Costar Stripwell Microplate 1 x 8 Flat Bottom, High Binding, Case of 100
8. GR238001 468667 Thermo Microplate 12x8-Well Strip Nunc Maxisorp F8, Case of 60
9. GR238031 96-well microplate sealer plastic, pack of 100

DECLARATION

THIS REAGENT IS FOR IN VITRO LABORATORY TESTING AND RESEARCH USE ONLY. DO NOT USE IT FOR CLINICAL DIAGNOSTICS. DO NOT USE OR INJECT IT IN HUMANS AND ANIMALS.

**FOR LABORATORY RESEARCH USE ONLY
NOT FOR USE IN HUMANS AND ANIMALS**