SANTA CRUZ BIOTECHNOLOGY, INC.

IgA_1 (H-11): sc-271913

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Immunoglobulins are four-chain, Y-shaped, monomeric structures comprised of two identical heavy chains and two identical light chains held together through interchain disulfide bonds. The chains form two domains, the Fab (antigen binding) fragment and the Fc (constant) fragment. Immunoglobulin A (IgA) is the main protein of the mucosal immune system. It is generated by B cells in gut-associated lymphoid tissues. Daily production of IgA exceeds that of any of the other immunoglobulins. The IgA heavy chain is an α-chain, and the light chains are either κ- or λ-chains. IgA exists mainly in dimers but can also exist as polymers or as monomers. Dimers and polymers contain a joining (J) chain that can be bound by the polymeric immunoglobulin receptor (pIgR) for transportation of the molecule to mucosal surfaces.

REFERENCES

1. Abraham, G.N., et al. 1978. Human triclonal anti-IgG gammopathy. II. Determination of the antigenic specificity patterns of the IgG, IgA and IgM autoantibodies for the subclasses of IgG. Immunology 35: 437-445.
2. Gearhart, P.J. and Cebra, J.J. 1979. Differentiated B lymphocytes. Potential to express particular antibody variable and constant regions depends on site of lymphoid tissue and antigen load. J. Exp. Med. 149: 216-227.
3. Grubb, A., et al. 1986. The molecular organization of the protein HC-IgA complex (HC-IgA). J. Biol. Chem. 261: 14313-14320.
4. Stavnezer-Nordgren, J. and Sirlin, S. 1986. Specificity of immunoglobulin heavy chain switch correlates with activity of germline heavy chain genes prior to switching. EMBO J. 5: 95-102.

CHROMOSOMAL LOCATION

Genetic locus: IGHA1 (human) mapping to 14p13.

SOURCE

IgA_1 (H-11) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of IgA_1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IgA_1 (H-11) is available conjugated to agarose (sc-271913 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271913 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271913 PE), fluorescein (sc-271913 FITC), Alexa Fluor® 488 (sc-271913 AF488), Alexa Fluor® 546 (sc-271913 AF546), Alexa Fluor® 594 (sc-271913 AF594) or Alexa Fluor® 647 (sc-271913 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271913 AF680) or Alexa Fluor® 790 (sc-271913 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

IgA_1 (H-11) is recommended for detection of IgA_1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight (predicted) of IgA_1: 38 kDa.

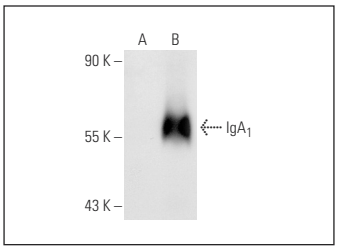
Molecular Weight (observed) of IgA_1: 52-69 kDa.

Positive Controls: IgA_1 (h2): 293T Lysate: sc-114781 or human plasma extract: sc-364374.

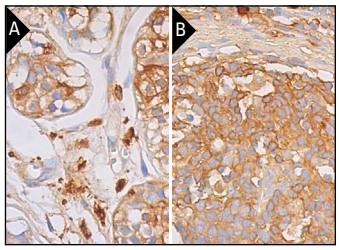
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



IgA_1 (H-11): sc-271913. Western blot analysis of IgA_1 expression in non-transfected: sc-117752 (**A**) and human IgA_1 transfected: sc-114781 (**B**) 293T whole cell lysates.



IgA_1 (H-11): sc-271913. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic staining of glandular cells and extracellular staining (**A**), and of human tonsil tissue showing cytoplasmic and membrane staining of cells in germinal center (**B**). Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.

SELECT PRODUCT CITATIONS

1. Zheng, N., et al. 2020. TLR7 in B cells promotes renal inflammation and Gd-IgA_1 synthesis in IgA nephropathy. JCI Insight 5: 136965.

RESEARCH USE

For research use only, not for use in diagnostic procedures.