

<b>Cat#</b> 10119-2-UL	Goat Anti-Humanized IgG1 (plant expressed), Unlabeled	<b>Size:</b> 1 ml
<b>Cat#</b> 10119-2-HP	Goat Anti-Humanized IgG1 (plant expressed)-HRP Conjugate (100x)	<b>Size:</b> 1 ml
<b>Cat#</b> 10119-2-BTN	Goat Anti-Humanized IgG1 (plant expressed)-Biotin Conjugate	<b>Size:</b> 1 ml

Humanized antibodies are antibodies from non-human species whose protein sequences have been modified to increase their similarity to antibody variants produced naturally in humans. The process of "humanization" is usually applied to monoclonal antibodies developed for administration to humans (for example, antibodies developed as anti-cancer drugs). Humanization can be necessary when the process of developing a specific antibody involves generation in a non-human immune system (such as that in mice). The protein sequences of antibodies produced in this way are partially distinct from homologous antibodies occurring naturally in humans, and are therefore potentially immunogenic when administered to human patients (see also Human anti-mouse antibody). There are other types of antibodies developed. The International Nonproprietary Names of humanized antibodies end in -zumab, as in omalizumab (see Nomenclature of monoclonal antibodies). Humanized antibodies are distinct from chimeric antibodies. The latter also have their protein sequences made more similar to human antibodies, but carry a larger stretch of non-human protein. Different degrees of humanisation can be achieved ranging from chimeric antibodies with a combination of human constant regions with rodent variable regions to fully reshaped antibodies where the variable regions are also humanised.

Humanized antibodies are generally produced in HEK cells or in plants. Most humanized therapeutic seemed to be superior at mediating ADCC with human lymphocytes, monocytes and granulocytes. Antibodies are based upon human IgG1 frame as IgG1 seemed to be superior at mediating antibody dependent cell mediated cytotoxicity (ADCC) with human lymphocytes, monocytes and granulocytes. However, other IgG isotypes (IgG1-4) have also found to be useful.

Herceptin (anti-Her2), Xolair (anti-IgE), Humira (anti-TNF-alpha), Lucentis and Avastin (anti-VEGF) and Rituximab (anti-CD20) are all based upon human IgG1 frame and produced in HEK cells. ZMapp, the top-secret magic serum, is an experimental biopharmaceutical drug comprising three humanized monoclonal antibodies (anti-Zaire Ebola GP) under development as a treatment for Ebola virus disease. The ZMapp drug is being developed by Mapp Biopharmaceutical Inc., is composed of three monoclonal antibodies (mAbs) that have been humanized (c13C6 from MB-003 and two humanized mAbs from ZMab, c2G4 and c4G7). ZMapp is manufactured in the tobacco plant *Nicotiana benthamiana* in the bioproduction process known as "pharming" by Kentucky BioProcessing, a subsidiary of Reynolds American.

While most of the humanized antibodies are based upon human IgG1 framework but they react differently to a given secondary antibody such as monoclonal or polyclonal anti-human IgG or IgG1. We have formulated a unique mixture of antibodies that have shown good reactivity with Herceptin (anti-Her2), Xolair (anti-IgE), Humira (anti-TNF-alpha), Lucentis and Avastin (anti-VEGF), Rituximab (anti-CD20) and Zmapp (anti-Zaire Ebola GP). These antibodies are available as unlabeled, biotin or HRP labeled for use in various humanized antibodies.

### Source of antibodies

Anti-humanized IgG1 are polyclonal antibodies produced in goat and affinity purified. The antibodies are specially blended to detect most of the humanized IgG1s produced in plants, HEK cells by ELISA.

#### Cat# 20119-2, unlabeled

The antibody is supplied in PBS, pH 7.4, and 0.05% azide in either **lyophilized** or **liquid** form. Reconstitute powder in PBS in 1 ml to prepare stock solution. Store at -20oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

#### Cat# 20119-2-HP, HRP-conjugate

Purified antibody was coupled to HRP (RZ>3.0) using periodate method. The molar enzyme to protein (E/P) ratio = 4.0. The antibody is supplied in stabilizing buffer, 0.1% proclin-300 as preservative in **liquid** form. Store at 4oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:100 for most of the humanized antibodies mentioned above. However, amount of the target antibody may require a different dilution for ELISA or Western. ).

#### Cat# 20119-2-BTN, Biotin-conjugate

Purified antibody was coupled to Biotin using Biotin-amidocaproate N-Hydroxysuccinimide Ester (BAC) at F/P ratio ~10-20:1. The antibody is supplied in PBS, pH 7.4, 1% BSA and 0.05% azide in either lyophilized or liquid form. Reconstitute powder in PBS in 1 ml to prepare stock solution. Store at -20oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:1000-1:5,000 for ELISA or western.

### Recommended Working Dilution for ELISA

Working dilution for the specific application should be determined by the investigator to obtain the best conditions. Working solution should be prepared immediately before use and diluted solution should be discarded.

### Related Material available for ADI

Herceptin (anti-Her2), Xolair (anti-IgE), Humira (anti-TNF-alpha), Lucentis and Avastin (anti-VEGF) and Rituximab (anti-CD20 ELISA kits

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