



**See more  
signal  
with less noise**



## See more signal with less noise

In nature many animals use camouflage to escape detection. An animal's survival often depends upon its ability to blend in with its environment, making it difficult to see. Just as in nature, your target protein can also be camouflaged in a complex "environment", making it difficult to see too. To create a successful immunoassay, you must be able to clearly distinguish your target from background. KPL products from SeraCare Life Sciences improve immunoassays by increasing the level of specific signal while reducing unwanted background. This catalog features animals camouflaged in their environment to illustrate the benefit of our KPL products: "See more signal with less noise." Our products help researchers see more and, as a result, achieve more.

### About SeraCare KPL Products

Scientists have relied on KPL antibodies and reagents for nearly four decades. These KPL products are now part of SeraCare Life Sciences, a leading provider of critical biological products to the *in vitro* diagnostics industry. Our combined product portfolio can meet your full range of needs from controls and calibrators to antibodies, reagents and reference materials.

Whether our products are being used by a laboratory researcher or a leading diagnostic kit manufacturer, SeraCare always adheres to the highest quality standards. That is why with KPL products from SeraCare you see more signal and less noise.

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# Why choose SeraCare KPL Antibodies

Immunoassays are used to quantitatively and qualitatively measure small amounts of analytes in complex biological systems. Although the concepts behind the development of an immunoassay may seem straightforward, development of assays that provide false or misleading information is common when proper selection of immunoreagents is not a critical part of the assay design. The antibody is one of the most important parts of any immunoassay design. It is important to select an antibody that provides the greatest sensitivity and specificity with the least amount of non-specific activity.

There are many reasons KPL polyclonal antibodies are the preferred antibodies in laboratories around the world. Customers appreciate that SeraCare is able to control the entire purification and manufacturing process from raw materials to delivery, including technical service and support. Unlike resellers, SeraCare has complete control over the purity, specificity, and sensitivity of its antibodies.

KPL antibodies are high-performing. The proprietary purification process eliminates potentially interfering serum proteins and non-specific antibodies that increase background and cause cross-reactivity issues. As a result, SeraCare is able to offer antibodies with a high degree of sensitivity and specificity.

SeraCare has more than 600 secondary antibodies directed to the immunoglobulins of 20 animal species labeled with 18 tags, including enzymes, fluorophores, biotin, and microparticles. In addition, SeraCare offers primary antibodies that recognize a variety of pathogenic bacteria species implicated in food contamination and infectious disease.

If you need any of these antibodies quickly, we can get them to you. Our antibodies are in-stock and ready for same-day shipment. Most KPL antibodies are lyophilized and can be shipped worldwide at ambient temperatures.

You can be sure when your antibodies arrive they will consistently meet the high standards for quality and performance you expect. All products are manufactured using an ISO 9001-registered management system to ensure lot-to-lot consistency.

SeraCare is an approved antibody supplier and trusted source for leading biotech/diagnostic companies, as well as academic and research laboratories. Many leading manufacturers utilize KPL antibodies in a variety of diagnostic kits for AIDS, tropical diseases, food testing, and cancer.

## The Antibody Molecule

Antibodies, which are also referred to as immunoglobulins, are glycoproteins that are produced and secreted by B lymphocytes and plasma cells. They are produced in animals in response to a foreign substance (antigen). Their ability to bind specifically and with great avidity plays a critical role in allowing the immune system to develop long-term memory and protection against a foreign antigen. The high specificity and extreme avidity for a particular antigen are the characteristics that make antibodies useful to researchers.

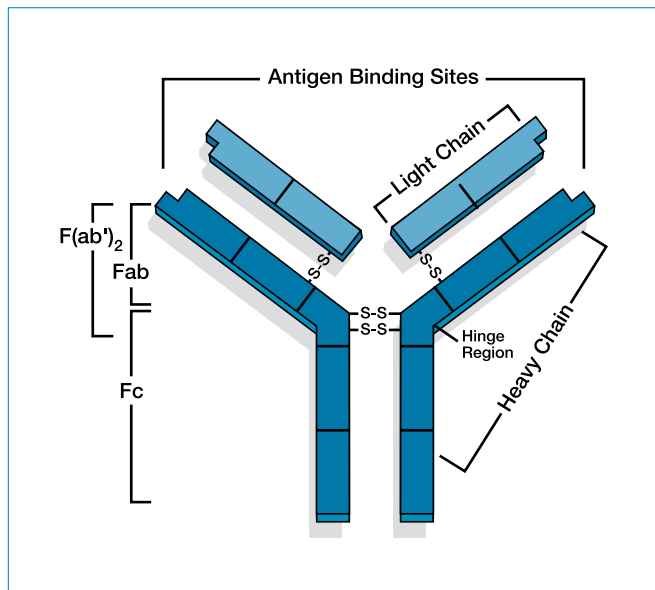
In order to be able to bind to diverse antigens, antibodies themselves need to be diverse, and the basic structure reflects this. The antibody is a Y-shaped protein and is comprised of four protein subunits bound together by disulfide bonds. The subunits are homodimers and distinguished by size. The two smaller subunits are called light chains, and two larger subunits are called heavy chains. One light chain is always associated with one heavy chain so that the total number of light chains is always equal to the number of heavy chains for a given molecule. The light chain consists of approximately 110 amino acids and contains a variable region at the C-terminus. The heavy chain has a similar structure of 110-amino acid variable region, but is followed by an approximately 330-amino acid constant region at the N-terminus. The various chains are covalently linked by several disulfide bonds in the area of the protein called the hinge region.

The combined variable regions of the heavy and light chains in the two arms of the Y shape give rise to the binding site, which is also known as the idiotype. The portion of the molecule that retains the antigen binding characteristics, the Y part of the antibody, is referred to as the Fab (Fragment Antigen Binding).

An antibody can be enzymatically digested into the aforementioned components including one additional one,  $F(ab')_2$ . When an immunoglobulin is digested with pepsin, enzymatic cleavage occurs on the C-terminal side of the disulfide bonds that hold the two heavy chains together. This results in two Fab regions that are held together by sulfide bonds. This is called  $F(ab')_2$ .

The non-antigen binding portion of the antibody, including the hinge region, contains a large part of the heavy chain and is called the Fc region (Fragment Crys-

tallizable). While this portion of the antibody cannot bind to antigens, the Fc region plays a significant roll in a number of important immunological reactions *in vivo*. Due to the similarities of the Fc regions between animal species the Fc region can be a source of nonspecific reactions.



## Antibody Classes

There are several classes of antibodies that are called isotypes. Each isotype is defined functionally by the antigen it specifically recognizes. Mammalian species produce five classes of immunoglobulins, which are distinguished by physical characteristics, such as structure, size, and valency and are referred to as IgG, IgM, IgA, IgE, and IgD. The composition of the heavy chain determines the class of the immunoglobulin. That is, IgG has gamma chains ( $\gamma$ ), IgM has mu chains ( $\mu$ ), IgA has alpha chains ( $\alpha$ ), IgE has epsilon chains ( $\epsilon$ ), and IgD has delta chains ( $\delta$ ). The specific anti-heavy chain antibodies react with sites on the heavy chain epitopes; for example, the symbol ( $\gamma$ ) indicates that antigen will only react with the gamma heavy chain of the IgG antibody. The light chains also have two different classes. One is known as kappa ( $\kappa$ ) and the other lambda ( $\lambda$ ).

IgG can be further subdivided into subclasses based on slight variation in the amino acid sequence of the gamma heavy chain. For example, human IgG can be divided into IgG1, IgG2, IgG3, and IgG4. Mouse IgG can be divided into IgG1, IgG2a, IgG2b, and IgG3. Other species have similar subdivisions.

## Antibody Class Function

**IgG Antibodies:** IgG is the dominant antibody found in blood serum. IgG promotes the recognition of microorganisms by immune cells and is responsible for long-term protection from disease. This antibody is the main immunoglobulin used in various immunoassays.

**IgM Antibodies:** IgM is the first antibody produced in response to infection. It is very effective in activating complement and destroying bacteria. IgM has a pentameric structure and is held together by extra disulfide bonds formed near the C-terminal end of the heavy chains plus a short polypeptide referred to as the J chain. Serum IgM is often analyzed in assays for early detection of infection.

**IgA Antibodies:** IgA is known as the secretory antibody and is found in mucous membrane secretions, like saliva. It protects the respiratory and gastrointestinal tracts from infection and, in some mammals, IgA is a major factor in milk that passively protects newborns. IgA is a dimer and is held together by a secretory chain.

**IgE Antibodies:** IgE binds to the Fc receptors on mast cells and basophils and triggers the allergic response. The IgE antibody is also associated with defense against parasites. IgE is present in blood in extremely low concentrations. Typically, anti-IgE is used in allergy testing.

**IgD Antibodies:** IgD is a minor blood component and is typically bound to the surface of B lymphocytes.

## Antibody Nomenclature

Secondary antibodies are usually identified with the following:

- the species from which they originate (e.g., goat, mouse, rat, hamster, etc.),
- the species whose antibodies they are designed to bind to or react with (e.g., human, mouse, etc.),
- the class (e.g., IgA, IgD, IgE, IgG, IgM) or subclass (IgG1, IgG2a, etc.) of antibodies of the species to which they are designed to bind,
- whether they are monoclonal or polyclonal,
- whether they are enzymatically processed into fragments, and
- whether they are conjugated.

Additionally, some names will indicate:

- specific antibody chains that are recognized [e.g., heavy (H), light (L), kappa ( $\kappa$ ), lambda ( $\lambda$ )],
- they have been affinity purified out of serum,
- they have been adsorbed to other antibodies to reduce cross-reactivity, or
- they are cross-reactive to antibodies of other species or other antibody classes and subclasses.

For example, “Goat Anti-Human IgG (H+L) HRP-labeled Antibody” would be used to identify an antibody that was produced in goats, that has epitopes on both the heavy and light chains of human IgG that will be recognized, and that the antibody is conjugated to horseradish peroxidase (HRP). The majority of KPL antibodies are produced in goats. Therefore, only when they are not produced in goats is the host animal included in the antibody names.

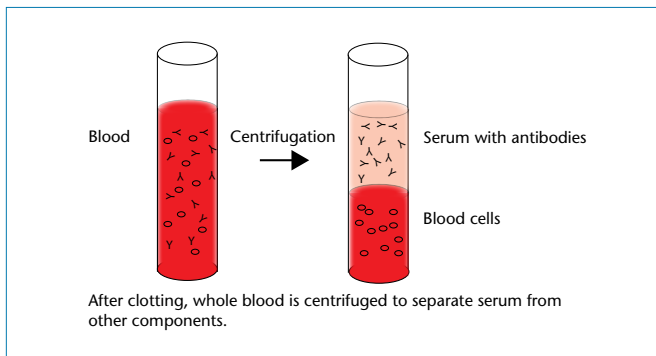
## Antibody Purification

When choosing a polyclonal antibody, either as a primary or secondary antibody in an immunoassay, researchers are often inundated with an array of antibody purification terms that they may not know much about. Understanding polyclonal antibody purification steps gives researchers the opportunity to pick the most appropriate antibody purification technique for their particular immuno-application.

Today, most polyclonal antibodies are referred to as being affinity purified. There are three major types of affinity purification: immunoglobulin-specific purification, antigen-specific purification, and serum adsorption. It should be noted that the different types of purification schemes are often used in combination to produce a better antibody. But first, it is important to understand the early steps, serum purification and salt precipitation.

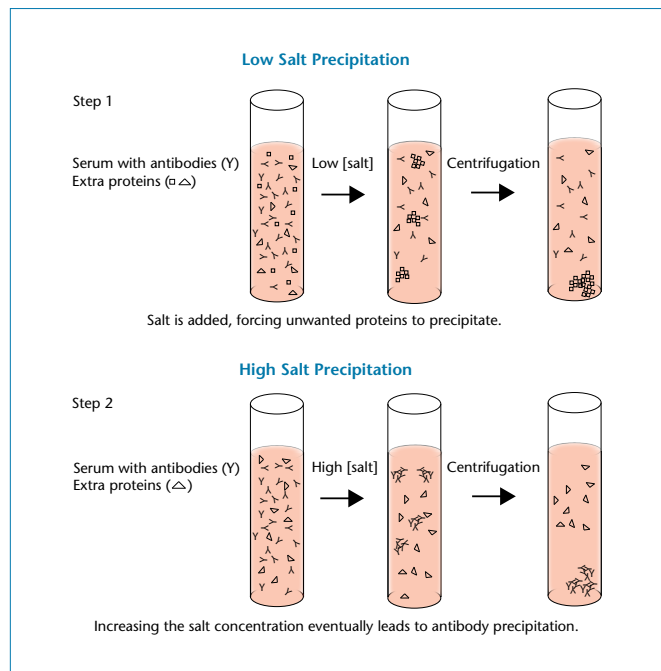
### Serum Purification

Polyclonal secondary antibodies may be provided as a serum fraction. Serum is the amber colored supernatant obtained after blood is allowed to clot and is the simplest purification technique. Serum contains different types of antibodies as well as antibodies with a variety of affinities, some of which will bind to the antigen of interest and some of which will bind to non-specific antigens. Serum is inexpensive and provides sensitivity, but not reliable specificity. In fact, serum will likely contain less than 10% specific antibody. The lack of specificity is due to a multitude of antibody clones and other proteins, including albumin, which may bind non-specifically in an immunoassay. Serum will often be found in individual labs provided by researchers developing their own antibodies.



## Salt Precipitation

One common technique for purifying proteins is salt precipitation. The solubility of proteins is related to the salt concentration of the solution. Increasing the amount of salt in a solution essentially removes water molecules from the protein, causing the protein to precipitate. This is commonly called "salting out." The differences in composition and shape of proteins mean that proteins precipitate at varying concentrations of salt. Often proteins are precipitated in a two-step or fractionated process. In the first step, salt is added so that the antibody of interest remains soluble, and unwanted proteins are removed. In the second step, more salt is added so that the antibody of interest precipitates, and the unwanted soluble proteins can be removed. The precipitate is then dialyzed to remove the salt, and the antibody dissolved back into solution. Serum can be precipitated this way using ammonium sulfate or caprylic acid. Salt precipitation is an inexpensive way to purify antibody from serum; however, the process does not remove proteins with a precipitation pattern similar to antibodies.





## Affinity Purification

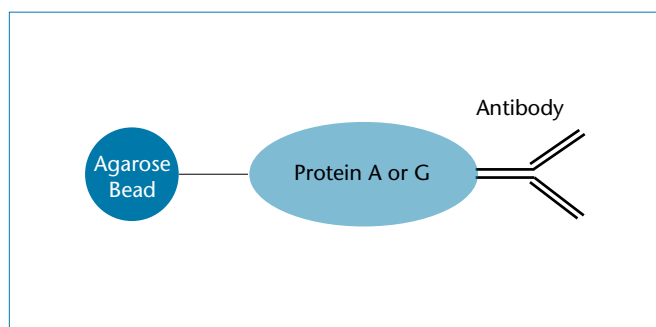
There are three types of affinity purification. Many times, the three are used in combination when the purest antibody is needed.

### Immunoglobulin-Specific Affinity Purification

In certain bacteria, immunoglobulin-binding proteins are used to evade the host immune response. These proteins bind immunoglobulins in an orientation that prevents normal antibody function. Repurposed for purification, immunoglobulin-binding proteins are used to increase the purity or to concentrate an antibody solution.

There are three common immunoglobulin-binding proteins used to purify antibodies, Protein A, Protein G, and Protein L. Protein A (from *Staphylococcus aureus*) and Protein G (from *Streptococcus* spp.) bind to the Fc region of antibodies while Protein L (from *Peptostreptococcus magnus*) binds to the antibodies through the light chain. Often these proteins are immobilized to a solid support (e.g., agarose beads) to form affinity matrices. Protein A, Protein G, and Protein L all have unique immunoglobulin-binding characteristics according to species, antibody type, and antibody isotype. Care must be taken when selecting an immunoglobulin-specific purification to make sure the antibody of interest will actually bind to the immunoglobulin-binding protein. Because the technique does not isolate antigen-specific antibodies, immunoassays using immunoglobulin-purified antibodies may still have background or specificity issues.

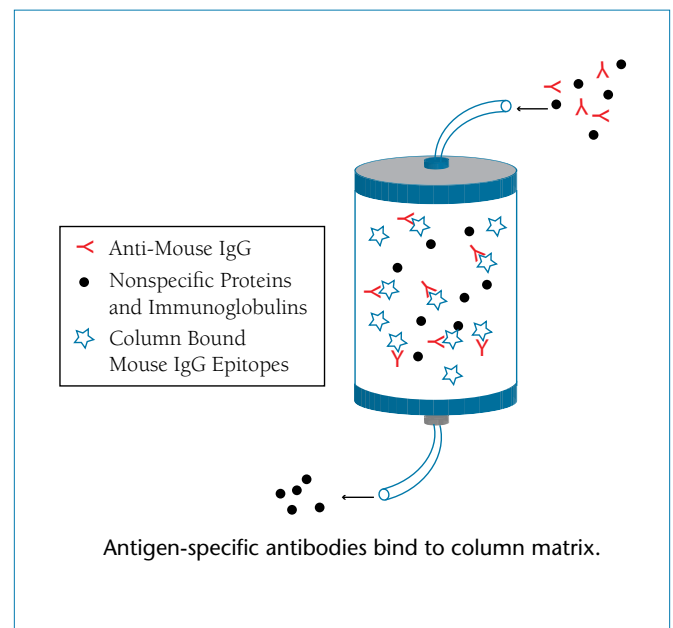
It should be noted that immunoglobulin-specific purification is a specific type of affinity purification; however, manufacturers often do not distinguish between Protein A, Protein G, or Protein L purification versus antigen affinity purification.



### Antigen Affinity Purification (Positive)

Antigen affinity purification is another specific type of affinity purification and results in the purest antibodies with the least amount of cross-reactivity. Affinity purified antibodies exhibit the highest specificity and sensitivity that can be obtained from serum. Because these antigen-specific antibodies are polyclonal, they can be used as both the capture and detection antibody in capture (sandwich) immunoassays.

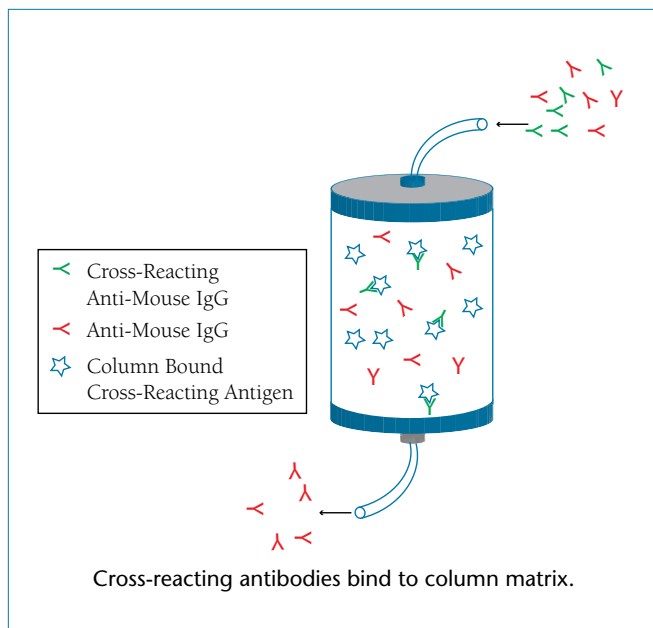
Despite all the care used to purify antibodies against a specific antigen there are some epitopes that are shared between proteins. These shared epitopes can cause cross-reactivity. In order to remove the cross-reactivity, negative affinity selection is utilized. Negative affinity purification selection is similar to antigen affinity purification except that unwanted proteins are used to remove cross-reacting antibodies. Often the unwanted proteins are attached to a solid support, and an affinity column is constructed using the cross-reacting antigen. During the purification process a negative affinity column is utilized to remove the unwanted antibody. Negative selection can be performed one or more times depending on the level of purity needed. The caveat to negative affinity columns is that the total number of epitopes being recognized by the polyclonal antibody is being reduced, and thus, the sensitivity will begin to decrease. A tradeoff must be made between sensitivity and specificity.



### Serum Adsorption (Negative Affinity Purification)

Polyclonal antibodies are most commonly used as anti-immunoglobulin secondary antibodies in various immunoassays. Even though polyclonal antibodies often display higher sensitivity than monoclonal antibodies, they can suffer from a lack of specificity. In certain applications even antigen affinity purified antibodies may suffer from a lack of specificity. Despite being affinity purified as species-specific, anti-immunoglobulins can bind other species to varying degrees due to shared epitopes across species. Depending on the immunoassays, researchers may need this cross-reactivity removed. Traditionally, the cross-reactivity was removed by adding serum of the unwanted species. The cross-reacting antibodies bound to the serum and were removed from the total antibody pool. Cross adsorption is easy to perform but introduces a complex protein mixture of serum from a different species back into a relative pure antibody solution. The antibody must then be repurified.

While the above technique is historically valid, these days most manufactures of secondary antibodies attach serum to a solid support and make negative affinity columns from serum. Thus serum adsorption is better categorized as a specific type of negative affinity, rather than a purification technique. Despite the wide use of negative affinity for purification purposes, manufacturers have traditionally only listed which antibodies have been serum adsorbed because knowledge of serum adsorption is critical for researchers performing multiplex assays.



## How KPL Antibodies Are Purified

The proprietary purification technology used results in higher affinity antibodies, which increase sensitivity and reduce background. Selected antibodies may be purified using negative affinity columns to minimize cross-reactivity between animal species or to reduce shared reactivity with other immunoglobulin classes. These processes yield pure antibodies with defined specificities and result in consistent lot-to-lot performance.

Considerable effort is spent developing and purifying an antigen formulation to generate high titer, specific antiserum, since pure antigen results in a more potent and specific antibody.

### Immunization

Prior to immunization, animals are carefully screened for reactivity toward the antigen. This allows the screening out of animals that will not produce an effective antibody. Next, multiple animals are involved in the production of one antibody, thus allowing for the collection the most potent antibodies possible. In addition, pooling antiserum from multiple animals minimizes natural serum variability, resulting in uniform large-scale antibody lots.

Production bleeds are obtained from the animals and are screened for potency. Production bleeds that do not meet quality requirements are rejected. The immunoglobulin fraction of antisera is then isolated and tested for purity as well as potency against the antigen.

### Purification

Even with the purity testing, the antiserum will contain many lipids and serum proteins. The most prevalent among them is albumin, which accounts for 50% of the protein in serum. The first step in the affinity purification process is accomplished by a series of salt precipitation steps in which 99% of these substances are removed. The resultant immunoglobulin fraction is likely to contain only 5-10% specific antibody. At this point, affinity purification using both positive and negative selection is utilized to purify the specific antibody from the nonspecific antibody. Then, the antibody is tested again for potency and cross-reactivity.

## Species Cross-Reactivity

Immunoglobulins of related animal species often share similar epitopes derived from homologous protein structure and sequence. For example, affinity purified antibodies against mouse IgG may recognize epitopes on human IgG. To minimize cross-reactivity between mouse and human species, antibodies to mouse immunoglobulin are adsorbed against immobilized human serum on a negative affinity column. The resulting antibody, anti-mouse IgG, human serum adsorbed (HSA), is highly specific to mouse IgG with minimal reactivity to human IgG or to any other human serum components. Select antibody preparations are further adsorbed against multiple animal species to reduce reactivity to shared regions among these species.

## Heavy and Light Chain Cross-Reactivity

Polyclonal antibodies recognize different regions on IgG heavy and light chains. Some of these regions are similar to IgA and IgM heavy and light chains. Therefore, these antibodies consist of subpopulations that also recognize IgM and IgA. To make an antibody specific for the IgG heavy chain, these subpopulations need to be removed or reduced. To do this, the purified antibodies are passed over a negative affinity column with immobilized whole IgM and IgA antibodies containing both heavy and light chains. Antibodies that recognized IgM and IgA bind to the column while antibodies specific for the IgG heavy chain pass through and are collected.

## The Finished Product

The final purified antibody is characterized for potency and specificity by two distinct ELISA formats and for purity by SDS-PAGE. After the testing is complete, the purified antibody is lyophilized and undergoes one more round of testing for potency and solubility.

# Choose the Right Antibody for your application

It is important to know how different antibodies will perform in different immunoassays. Below are descriptions of the general antibody characteristics to help you determine which is the best antibody for your immunoassay.

## Anti-Heavy and Light Chain (H+L) Antibodies

Antibodies to IgG heavy and light chains (H+L) recognize epitopes on both heavy and light chains of IgG and may react with other immunoglobulin classes that have light chains in common with IgG. These antibodies are versatile choices for many different assays. H+L antibodies will recognize the most epitopes and thus will give the maximum amount of signal.

## Anti-Heavy Chain-Specific Antibodies

Anti-heavy chain-specific antibodies, IgG ( $\gamma$ ), IgM ( $\mu$ ), IgA ( $\alpha$ ), and IgE ( $\epsilon$ ), react specifically with the heavy chain indicated in the product name. Heavy chain-specific antibodies are absorbed against the whole antibody molecule of other immunoglobulin classes to remove shared heavy and light chain reactivity. For example, gamma-specific products are cross-reacted on resins containing species-specific IgM and IgA antigens. These antibodies are useful in assays where “heavy chain only” reactivity is desired.

## Anti-IgG+IgM (H+L) Antibodies

Antibody products directed against IgG and IgM (H+L) contain an equal mixture of two antibodies that recognize reactive sites specific for IgG and IgM. These antibodies are recommended when monitoring both IgG and IgM.

## Anti-IgA+IgG+IgM (H+L) Antibodies

Antibodies directed against IgA+IgG+IgM (H+L) contain an equal mixture of three antibodies that recognize reactive sites specific to IgA, IgG, and IgM. Other shared sites through light chain cross-reactivity also may be present. Anti-IgA+IgG+IgM (H+L) antibodies are best used when measurement of all three classes of antibodies needs to be controlled in an immunoassay.

## F(ab')<sub>2</sub> Fragment Antibodies

F(ab')<sub>2</sub> fragment antibodies are specifically developed to prevent the antibody binding non-specifically to Fc receptors located on some types of cells. F(ab')<sub>2</sub> antibodies can also be used to reduce background in assays that involve bacterial contamination or detection of antigens in cell lysates. F(ab')<sub>2</sub> antibodies also can be used to increase sensitivity in immunohistochemical applications where smaller antibody molecules are needed to diffuse through tissues.

## Definitions

**Antigen** An antigen is a molecule that is capable of provoking the production of antibodies. The antigen and antibody bind much like a lock and key system. Antigens are usually large. In some cases, they are proteins that are larger than the antibody. They can also be organisms such as bacteria or viruses.

**Antiserum** A pool of blood serum that contains all of the antibody fraction plus other serum proteins.

**Epitopes** The structural area on an antigen that binds with an antibody.

**Fab** Fab stands for fragment antigen binding. It is the portion of the antibody that is comprised of the heavy and light chain of one arm of the Y shape. The Fab contains the variable sections that define the specific target to which the antibody can bind.

**Fc** The fragment crystallizable is the tail region of an antibody that interacts with cell surface receptors called Fc receptors.

**F(ab')<sub>2</sub>** When IgG is digested with pepsin, enzymatic cleavage occurs on the C-terminal side of the disulfide bonds that hold the two heavy chains together. This results in two Fab regions that are held together by disulfide bonds and is referred to as F(ab')<sub>2</sub>.

**Heavy chain** The heavy chain has a structure of 110-amino acids followed by an approximately 330-amino acid constant region. The heavy chain designates the isotope, IgM, IgG, IgD, IgE, and IgA. It also determines the subclass.

**Immunogen** An immunogen is a foreign substance (non-self)—such as a protein, lipid, or carbohydrate—introduced into a host animal that provokes an immune response. An immunogen is also a specific type of antigen. All immunogens are antigens but not all antigens are immunogens.

**Light chain** The light chain consists of approximately 110 amino acids at the C-terminal end and is referred to as the variable region. There are two types of light chains,  $\lambda$  and  $\kappa$ .

**Monoclonal** Monoclonal antibodies are produced following the fusion of myeloma cells with B cells. The resultant continuous cell line (hybridoma) produces large quantities of homogeneous, well-defined, single epitope antibody. The availability of large quantities of continuously produced antibody allow for greater standardization and quality control of the antibody reagent. Therefore, monoclonal antibodies are more precisely characterized and have greater acceptance by regulatory agencies when used in diagnostic application.

**Primary Antibody** A primary antibody is an antibody used to detect another type of molecule. The antibody can be monoclonal or polyclonal. What makes primary antibodies extremely useful is their ability to bind with high affinity and specificity to unique epitopes across a broad spectrum of biomolecules. While primary antibodies are sometimes labeled, researchers will often use an unlabeled primary antibody in conjunction with a labeled secondary antibody to provide a signal enhancement. Historically, the term primary antibody was the first antibody applied to the substrate-bound target molecule in the assay detection process. With today's newer array types of assays, this convention does not necessarily hold true.

**Polyclonal** Polyclonal antibodies are obtained from the serum of animals immunized with a particular antigen. The antibody pool obtained from serum is the result of many B cell clones to one specific antibody. Therefore, polyclonal antibodies represent a mixture of innumerable distinct clones. The antibodies recognize multiple epitopes or have multiple binding sites on a particular antigen.

**Secondary Antibody** A secondary antibody refers to an antibody that detects another antibody. They are usually conjugated to an enzyme, fluorophore, or other tag. While monoclonals can be used, polyclonal antibodies provide signal amplification by binding multiple epitopes on the primary antibody.

**Serum** Plasma that does not contain blood clotting factors, or fibrinogen.



## SeraCare KPL Secondary Antibodies

There are more than 600 KPL secondary polyclonal antibodies to immunoglobulins from 20 animal species. All antibodies are produced in goat except anti-deer, anti-goat, and anti-sheep, which are produced in rabbit. Our secondary antibodies are available with many labeling options for sensitive immunoassays.

## Unlabeled Antibodies

	CATALOG NO.	SIZE		CATALOG NO.	SIZE
<b>Anti-Bovine</b>			<b>Anti-Human</b>		
<b>IgG (H+L)</b>	01-12-06	1.0 mg	<b>IgA (<math>\alpha</math>)</b>	01-10-01	1.0 mg
<b>IgM (<math>\mu</math>)</b>	01-12-03	1.0 mg	<b>IgE (<math>\epsilon</math>)</b>	01-10-04	1.0 mg
<b>Anti-Cat</b>			<b>IgG (Fc)</b>	01-10-20	1.0 mg
<b>IgG (H+L)</b>	01-20-06	1.0 mg	<b>IgG (<math>\gamma</math>)</b>	01-10-02	1.0 mg
<b>IgG (<math>\gamma</math>)</b>	01-20-02	1.0 mg	<b>IgG (<math>\gamma</math>), F(ab')<sub>2</sub></b>	201-1002	1.0 mg
<b>IgM (<math>\mu</math>)</b>	01-20-03	1.0 mg	<b>IgG (H+L)</b>	01-10-06	1.0 mg
<b>Anti-Chicken</b>			<b>IgG (H+L), F(ab')<sub>2</sub></b>	201-1006	1.0 mg
<b>IgG (H+L)</b>	01-24-06	1.0 mg	<b>IgM (<math>\mu</math>)</b>	01-10-03	1.0 mg
<b>Rabbit Anti-Deer</b>			<b>IgM (<math>\mu</math>), F(ab')<sub>2</sub></b>	201-1003	1.0 mg
<b>IgG (H+L)</b>	01-31-06	1.0 mg	<b>IgA+IgG+IgM (H+L)</b>	01-10-07	1.0 mg
<b>Anti-Dog</b>			<b>IgA+IgG+IgM (H+L), MSA</b>	01-10-17	1.0 mg
<b>IgG (H+L)</b>	01-19-06	1.0 mg	<b>Anti-Monkey</b>		
<b>IgG (<math>\gamma</math>)</b>	01-19-02	1.0 mg	<b>IgA (<math>\alpha</math>)</b>	071-11-011	1.0 mL
<b>IgM (<math>\mu</math>)</b>	01-19-03	1.0 mg	<b>IgG (<math>\gamma</math>)</b>	071-11-021	1.0 mL
<b>Anti-Duck</b>			<b>IgM (<math>\mu</math>)</b>	071-11-031	1.0 mL
<b>IgG (H+L)</b>	01-25-06	1.0 mg	<b>Anti-Mouse</b>		
<b>Anti-Ferret</b>			<b>IgA (<math>\alpha</math>), HSA</b>	01-18-01	1.0 mg
<b>IgG (H+L)</b>	01-30-06	1.0 mg	<b>IgG (<math>\gamma</math>), HSA</b>	01-18-02	1.0 mg
<b>Rabbit Anti-Goat</b>			<b>IgG (H+L), HSA</b>	01-18-06	1.0 mg
<b>IgG (H+L)</b>	01-13-06	1.0 mg	<b>IgG (<math>\gamma</math>), F(ab')<sub>2</sub>, HSA</b>	201-1802	1.0 mg
<b>Anti-Guinea Pig</b>			<b>IgG (H+L), F(ab')<sub>2</sub></b>	201-1806	1.0 mg
<b>IgG (H+L)</b>	01-17-06	1.0 mg	<b>IgG (H+L), RbSA</b>	01-18-18	1.0 mg
<b>Anti-Hamster</b>			<b>IgG (H+L), RtSA</b>	01-18-15	1.0 mg
<b>IgG (H+L)</b>	01-22-06	1.0 mg	<b>IgM (<math>\mu</math>), HSA</b>	01-18-03	1.0 mg
<b>Anti-Horse</b>			<b>IgA+IgG+IgM (H+L), HSA</b>	01-18-07	1.0 mg
<b>IgG (H+L)</b>	01-21-06	1.0 mg	<b>IgG+IgM (H+L), HSA</b>	01-18-09	1.0 mg
<b>IgG (<math>\gamma</math>)</b>	01-21-02	1.0 mg			
<b>IgM (<math>\mu</math>)</b>	01-21-03	1.0 mg			

HSA = Human Serum Adsorbed  
MSA = Mouse Serum Adsorbed  
XSA = Extra Serum Adsorbed  
RbSA = Rabbit Serum Adsorbed  
RtSA = Rat Serum Adsorbed

**Unlabeled Antibodies** *continued*

	CATALOG NO.	SIZE
<i>Anti-Peromyscus leucopus</i>		
<b>IgG (H+L)</b>	01-33-06	1.0 mg
<i>Anti-Rabbit</i>		
<b>IgG (H+L)</b>	01-15-06	1.0 mg
<b>IgG (H+L), F(ab')<sub>2</sub>, HSA</b>	201-1516	1.0 mg
<b>IgG (H+L), HSA</b>	01-15-16	1.0 mg
<i>Anti-Rat</i>		
<b>IgG (γ)</b>	01-16-02	1.0 mg
<b>IgG (H+L)</b>	01-16-06	1.0 mg
<b>IgG (H+L), MSA</b>	01-16-12	1.0 mg
<b>IgM (μ)</b>	01-16-03	1.0 mg

	CATALOG NO.	SIZE
<i>Rabbit Anti-Sheep</i>		
<b>IgG (γ)</b>	01-23-02	1.0 mg
<b>IgG (H+L)</b>	01-23-06	1.0 mg
<b>IgM (μ)</b>	01-23-03	1.0 mg
<i>Anti-Swine</i>		
<b>IgG (γ)</b>	01-14-02	1.0 mg
<b>IgG (H+L)</b>	01-14-06	1.0 mg
<b>IgM (μ)</b>	01-14-03	1.0 mg
<i>Anti-Turkey</i>		
<b>IgG (H+L)</b>	01-26-06	1.0 mg

**HRP-labeled Antibodies**

	CATALOG NO.	SIZE
<i>Anti-Bovine</i>		
<b>IgG (H+L)</b>	14-12-06	0.5 mg
<b>IgM (μ)</b>	04-12-03	0.1 mg
<i>Anti-Cat</i>		
<b>IgG (γ)</b>	04-20-02	0.1 mg
<b>IgG (H+L)</b>	14-20-06	0.5 mg
<b>IgM (μ)</b>	04-20-03	0.1 mg
<i>Anti-Chicken</i>		
<b>IgG (H+L)</b>	14-24-06	0.5 mg
<i>Rabbit Anti-Deer</i>		
<b>IgG (H+L)</b>	04-31-06	0.1 mg
<i>Anti-Dog</i>		
<b>IgG (γ)</b>	04-19-02	0.1 mg
<b>IgG (H+L)</b>	14-19-06	0.5 mg
<b>IgM (μ)</b>	04-19-03	0.1 mg

	CATALOG NO.	SIZE
<i>Anti-Duck</i>		
<b>IgG (H+L)</b>	04-25-06	0.1 mg
<i>Anti-Ferret</i>		
<b>IgG (H+L)</b>	04-30-06	0.1 mg
<i>Rabbit Anti-Goat</i>		
<b>IgG (H+L)</b>	14-13-06	0.5 mg
<i>Anti-Guinea Pig</i>		
<b>IgG (H+L)</b>	14-17-06	0.5 mg
<i>Anti-Hamster</i>		
<b>IgG (H+L)</b>	14-22-06	0.5 mg
<i>Anti-Horse</i>		
<b>IgG (γ)</b>	04-21-02	0.1 mg
<b>IgG (H+L)</b>	14-21-06	0.5 mg
<b>IgM (μ)</b>	04-21-03	0.1 mg



**HRP-labeled Antibodies** *continued*

	CATALOG NO.	SIZE
<b>Anti-Human</b>		
<b>IgA (α)</b>	14-10-01	0.5 mg
<b>IgG (ε)</b>	074-1004	1.0 mg
<b>IgG (Fc)</b>	04-10-20	0.1 mg
<b>IgG (γ)</b>	074-1002	1.0 mg
	474-1002	1.0 mL
<b>IgG (γ), F(ab')<sub>2</sub></b>	214-1002	0.5 mg
<b>IgG (H+L)</b>	04-10-06	0.1 mg
	074-1006	1.0 mg
	474-1006	1.0 mL
<b>IgG (H+L), F(ab')<sub>2</sub></b>	214-1006	0.5 mg
<b>IgM (μ)</b>	074-1003	1.0 mg
<b>IgM (μ), F(ab')<sub>2</sub></b>	214-1003	0.5 mg
<b>IgA+IgG+IgM (H+L)</b>	074-1007	1.0 mg
<b>IgA+IgG+IgM (H+L), MSA</b>	04-10-17	0.1 mg
<b>Anti-Monkey</b>		
<b>IgA (α)</b>	074-11-011	1.0 mg
<b>IgG (γ)</b>	074-11-021	1.0 mg
<b>IgM (μ)</b>	074-11-031	1.0 mg
<b>Anti-Mouse</b>		
<b>IgA (α), HSA</b>	14-18-01	0.5 mg
<b>IgG (γ), HSA</b>	074-1802	1.0 mg
	474-1802	1.0 mL
<b>IgG (γ), F(ab')<sub>2</sub>, HSA</b>	214-1802	0.5 mg
<b>IgG (H+L), HSA</b>	04-18-06	0.1 mg
	074-1806	1.0 mg
	474-1806	1.0 mL
<b>IgG (H+L), F(ab')<sub>2</sub>, HSA</b>	214-1806	0.5 mg
<b>IgG (H+L), RbSA, HSA</b>	04-18-18	0.1 mg

	CATALOG NO.	SIZE
<b>Anti-Mouse</b> <i>continued</i>		
<b>IgG (H+L), RtSA, HSA</b>	04-18-15	0.1 mg
<b>IgG (H+L), XSA</b>	074-18-061	1.0 mg
<b>IgM (μ), HSA</b>	074-1803	1.0 mg
<b>IgA+IgG+IgM (H+L), HSA</b>	074-1807	1.0 mg
<b>IgG+IgM (H+L), HSA</b>	074-1809	1.0 mg
<b>Anti-Peromyscus leucopus</b>		
<b>IgG (H+L)</b>	14-33-06	0.5 mg
<b>Anti-Rabbit</b>		
<b>IgG (H+L)</b>	04-15-06	0.1 mg
	074-1506	1.0 mg
	474-1506	1.0 mL
<b>IgG (H+L), HSA</b>	074-1516	1.0 mg
	474-1516	1.0 mL
<b>IgG (H+L), F(ab')<sub>2</sub>, HSA</b>	214-1516	0.5 mg
<b>IgG (H+L), XSA</b>	074-15-061	1.0 mg
<b>Anti-Rat</b>		
<b>IgG (γ)</b>	04-16-02	0.1 mg
<b>IgG (H+L)</b>	14-16-06	0.5 mg
<b>IgG (H+L), MSA</b>	14-16-12	0.5 mg
	474-1612	1.0 mL
<b>IgM (μ)</b>	04-16-03	0.1 mg
<b>Rabbit Anti-Sheep</b>		
<b>IgG (γ)</b>	04-23-02	0.1 mg
<b>IgG (H+L)</b>	14-23-06	0.5 mg
<b>IgM (μ)</b>	04-23-03	0.1 mg
<b>Anti-Swine</b>		
<b>IgG (γ)</b>	04-14-02	0.1 mg
<b>IgG (H+L)</b>	14-14-06	0.5 mg
<b>IgM (μ)</b>	04-14-03	0.1 mg

**HRP-labeled Antibodies** *continued*

	CATALOG NO.	SIZE
Anti-Turkey		
<b>IgG (H+L)</b>	14-26-06	0.5 mg
<b>Streptavidin</b>	14-30-00	0.5 mg
	474-3000	1.0 mL
<b>Protein A</b>	14-50-00	0.5 mg

**AP-labeled Antibodies**

	CATALOG NO.	SIZE
Anti-Bovine		
<b>IgM (<math>\mu</math>)</b>	05-12-03	0.1 mg
Anti-Cat		
<b>IgG (<math>\gamma</math>)</b>	05-20-02	0.1 mg
<b>IgG (H+L)</b>	15-20-06	0.5 mg
Rabbit Anti-Deer		
<b>IgG (H+L)</b>	05-31-06	0.1 mg
Anti-Dog		
<b>IgG (<math>\gamma</math>)</b>	05-19-02	0.1 mg
<b>IgM (<math>\mu</math>)</b>	05-19-03	0.1 mg
Anti-Duck		
<b>IgG (H+L)</b>	05-25-06	0.1 mg
Anti-Ferret		
<b>IgG (H+L)</b>	05-30-06	0.1 mg
Anti-Guinea Pig		
<b>IgG (H+L)</b>	15-17-06	0.5 mg
Anti-Hamster		
<b>IgG (H+L)</b>	15-22-06	0.5 mg

	CATALOG NO.	SIZE
Anti-Horse		
<b>IgG (<math>\gamma</math>)</b>	05-21-02	0.1 mg
<b>IgG (H+L)</b>	15-21-06	0.5 mg
<b>IgM (<math>\mu</math>)</b>	05-21-03	0.1 mg
Anti-Human		
<b>IgE (<math>\epsilon</math>)</b>	075-1004	1.0 mg
<b>IgG (Fc)</b>	05-10-20	0.1 mg
<b>IgG (<math>\gamma</math>), F(ab')<sub>2</sub></b>	215-1002	0.5 mg
<b>IgG (H+L)</b>	05-10-06	0.1 mg
<b>IgG (H+L), F(ab')<sub>2</sub></b>	215-1006	0.5 mg
<b>IgM (<math>\mu</math>), F(ab')<sub>2</sub></b>	215-1003	0.5 mg
Anti-Mouse		
<b>IgG (<math>\gamma</math>), F(ab')<sub>2</sub>, HSA</b>	215-1802	0.5 mg
<b>IgG (H+L), HSA</b>	05-18-06	0.1 mg
<b>IgG (H+L), F(ab')<sub>2</sub>, HSA</b>	215-1806	0.5 mg
<b>IgG (H+L), RbSA, HSA</b>	05-18-18	0.1 mg
<b>IgG (H+L), RtSA, HSA</b>	05-18-15	0.1 mg

**AP-labeled Antibodies** *continued*

	CATALOG NO.	SIZE
<i>Anti-Peromyscus leucopus</i>		
<b>IgG (H+L)</b>	15-33-06	0.5 mg
<i>Anti-Rabbit</i>		
<b>IgG (H+L)</b>	05-15-06	0.1 mg
<b>IgG (H+L), F(ab')<sub>2</sub>, HSA</b>	215-1516	0.5 mg
<i>Anti-Rat</i>		
<b>IgG (γ)</b>	05-16-02	0.1 mg
<b>IgG (H+L)</b>	15-16-06	0.5 mg
<b>IgG (H+L), MSA</b>	475-1612	1.0 mL
<b>IgM (μ)</b>	05-16-03	1.0 mL

	CATALOG NO.	SIZE
<i>Rabbit Anti-Sheep</i>		
<b>IgG (γ)</b>	05-23-02	0.1 mg
<b>IgM (μ)</b>	05-23-03	0.1 mg
<i>Anti-Swine</i>		
<b>IgG (γ)</b>	05-14-02	0.1 mg
<b>IgM (μ)</b>	05-14-03	0.1 mg
<i>Anti-Turkey</i>		
<b>IgG (H+L)</b>	15-26-06	0.5 mg
<b>Streptavidin</b>	15-30-00	0.5 mg

**ReserveAP-labeled Antibodies\***

	CATALOG NO.	SIZE
<i>Anti-Bovine</i>		
<b>IgG (H+L)</b>	151-12-06	0.5 mg
<i>Anti-Chicken</i>		
<b>IgG (H+L)</b>	151-24-06	0.5 mg
<i>Anti-Dog</i>		
<b>IgG (γ)</b>	051-19-02	0.1 mg
<b>IgG (H+L)</b>	151-19-06	0.5 mg
<i>Rabbit Anti-Goat</i>		
<b>IgG (H+L)</b>	151-13-06	0.5 mg
<i>Anti-Human</i>		
<b>IgA (α)</b>	0751-1001	1.0 mg
<b>IgE (ε)</b>	0751-1004	1.0 mg
<b>IgG (γ), F(ab')<sub>2</sub></b>	2151-1002	1.0 mg
<b>IgG (γ)</b>	0751-1002	1.0 mg
	4751-1002	1.0 mL

	CATALOG NO.	SIZE
<i>Anti-Human continued</i>		
<b>IgG (H+L)</b>	0751-1006	1.0 mg
	4751-1006	1.0 mL
<b>IgM (μ)</b>	0751-1003	1.0 mg
	4751-1003	1.0 mL
<b>IgA+IgG+IgM (H+L)</b>	0751-1007	1.0 mg
<i>Anti-Mouse</i>		
<b>IgA (α), HSA</b>	151-18-01	0.5 mg
<b>IgG (γ), HSA</b>	0751-1802	1.0 mg
<b>IgG (H+L), HSA</b>	0751-1806	1.0 mg
	4751-1806	1.0 mL
	4751-1802	1.0 mL
<b>IgM (μ), HSA</b>	0751-1803	1.0 mg
<b>IgA+IgG+IgM (H+L), HSA</b>	0751-1807	1.0 mg
<b>IgG+IgM (H+L), HSA</b>	0751-1809	1.0 mg

\* Highest grade of AP combined with KPL's proprietary conjugation technology creates most sensitive conjugates.

**ReserveAP-labeled Antibodies** *continued*

	CATALOG NO.	SIZE
Anti-Rabbit		
<b>IgG (H+L)</b>	0751-1506	1.0 mg
	4751-1506	1.0 mL
<b>IgG (H+L), HSA</b>	0751-1516	1.0 mg
	4751-1516	1.0 mL

	CATALOG NO.	SIZE
Rabbit-Anti-Sheep		
<b>IgG (H+L)</b>	151-23-06	0.5 mg
Anti-Swine		
<b>IgG (H+L)</b>	151-14-06	0.5 mg

**Biotin-labeled Antibodies**

	CATALOG NO.	SIZE
Anti-Bovine		
<b>IgG (H+L)</b>	16-12-06	0.5 mg
<b>IgM (μ)</b>	16-12-03	0.5 mg
Anti-Cat		
<b>IgG (H+L)</b>	16-20-06	0.5 mg
Anti-Chicken		
<b>IgG (H+L)</b>	16-24-06	0.5 mg
Anti-Dog		
<b>IgG (H+L)</b>	16-19-06	0.5 mg
Rabbit Anti-Goat		
<b>IgG (H+L)</b>	16-13-06	0.5 mg
	71-00-37	50 mL
Anti-Guinea Pig		
<b>IgG (H+L)</b>	16-17-06	0.5 mg
Anti-Hamster		
<b>IgG (H+L)</b>	16-22-06	0.5 mg
Anti-Horse		
<b>IgG (γ)</b>	16-21-02	0.5 mg
<b>IgG (H+L)</b>	16-21-06	0.5 mg
<b>IgM (μ)</b>	16-21-03	0.5 mg

	CATALOG NO.	SIZE
Anti-Human		
<b>IgA (α)</b>	16-10-01	0.5 mg
<b>IgE (ε)</b>	16-10-04	0.5 mg
<b>IgG (γ)</b>	16-10-02	0.5 mg
<b>IgG (γ), F(ab')<sub>2</sub></b>	216-1002	1.0 mg
<b>IgG (H+L)</b>	16-10-06	0.5 mg
	176-1006	2.0 mg
<b>IgG (H+L), F(ab')<sub>2</sub></b>	216-1006	1.0 mg
<b>IgM (μ)</b>	16-10-03	0.5 mg
<b>IgA+IgG+IgM (H+L)</b>	16-10-07	0.5 mg
Anti-Mouse		
<b>IgA (α), HSA</b>	16-18-01	0.5 mg
<b>IgG (γ), HSA</b>	16-18-02	0.5 mg
<b>IgG (H+L), HSA</b>	16-18-06	0.5 mg
	176-1806	2.0 mg
	71-00-29	50 mL
<b>IgG (H+L), F(ab')<sub>2</sub>, HSA</b>	216-1806	1.0 mg
<b>IgG (H+L), RbSA, HSA</b>	16-18-18	0.5 mg
<b>IgG (H+L), RtSA, HSA</b>	16-18-15	0.5 mg

**Biotin-labeled Antibodies** *continued*

	CATALOG NO.	SIZE
<i>Anti-Mouse continued</i>		
<b>IgM (μ), HSA</b>	16-18-03	0.5 mg
<b>IgA+IgG+IgM (H+L), HSA</b>	16-18-07	0.5 mg
<b>IgG+IgM (H+L), HSA</b>	16-18-09	0.5 mg
<i>Anti-Rabbit</i>		
<b>IgG (H+L)</b>	16-15-06	0.5 mg
	176-1506	2.0 mg
	71-00-30	50 mL
<b>IgG (H+L), HSA</b>	16-15-16	0.5 mg

	CATALOG NO.	SIZE
<i>Anti-Rat</i>		
<b>IgG (γ)</b>	16-16-02	0.5 mg
<b>IgG (H+L)</b>	16-16-06	0.5 mg
	71-00-31	50 mL
<b>IgG (H+L), MSA</b>	16-16-12	0.5 mg
<b>IgM (μ)</b>	16-16-03	0.5 mg
<i>Rabbit Anti-Sheep</i>		
<b>IgG (H+L)</b>	16-23-06	0.5 mg
<i>Anti-Swine</i>		
<b>IgG (γ)</b>	16-14-02	0.5 mg
<b>IgM (μ)</b>	16-14-03	0.5 mg

**Gold-labeled Antibodies**

	CATALOG NO.	SIZE
<i>Anti-Human</i>		
<b>IgG (H+L)</b>	58-10-06*	1.0 mL
	57-10-06**	3.0 mL
<i>Anti-Rabbit</i>		
<b>IgG (H+L)</b>	58-15-06*	1.0 mL
	57-15-06**	3.0 mL
<i>Anti-Biotin</i>		
	58-40-06*	1.0 mL
	57-40-06**	3.0 mL
<b>Streptavidin</b>	58-30-06*	1.0 mL

\* 5 nm

\*\* 40 nm

## FITC-labeled Antibodies

	CATALOG NO.	SIZE
<b>Anti-Bovine</b>		
<b>IgG (H+L)</b>	02-12-06	0.5 mg
<b>IgM (<math>\mu</math>)</b>	02-12-03	0.5 mg
<b>Anti-Cat</b>		
<b>IgG (<math>\gamma</math>)</b>	02-20-02	0.5 mg
<b>IgG (H+L)</b>	02-20-06	0.5 mg
<b>IgM (<math>\mu</math>)</b>	02-20-03	0.5 mg
<b>Anti-Chicken</b>		
<b>IgG (H+L)</b>	02-24-06	0.5 mg
<b>Rabbit Anti-Deer</b>		
<b>IgG (H+L)</b>	02-31-06	0.5 mg
<b>Anti-Dog</b>		
<b>IgG (<math>\gamma</math>)</b>	02-19-02	0.5 mg
<b>IgG (H+L)</b>	02-19-06	0.5 mg
<b>IgM (<math>\mu</math>)</b>	02-19-03	0.5 mg
<b>Anti-Duck</b>		
<b>IgG (H+L)</b>	02-25-06	0.5 mg
<b>Anti-Ferret</b>		
<b>IgG (H+L)</b>	02-30-06	0.5 mg
<b>Rabbit Anti-Goat</b>		
<b>IgG (H+L)</b>	02-13-06	0.5 mg
<b>Anti-Guinea Pig</b>		
<b>IgG (H+L)</b>	02-17-06	0.5 mg
<b>Anti-Hamster</b>		
<b>IgG (H+L)</b>	02-22-06	0.5 mg
<b>Anti-Horse</b>		
<b>IgG (<math>\gamma</math>)</b>	02-21-02	0.5 mg
<b>IgG (H+L)</b>	02-21-06	0.5 mg
<b>IgM (<math>\mu</math>)</b>	02-21-03	0.5 mg

	CATALOG NO.	SIZE
<b>Anti-Human</b>		
<b>IgA (<math>\alpha</math>)</b>	02-10-01	0.5 mg
<b>IgE (<math>\epsilon</math>)</b>	02-10-04	0.5 mg
<b>IgG (Fc)</b>	02-10-20	0.5 mg
<b>IgG (<math>\gamma</math>)</b>	02-10-02	0.5 mg
<b>IgG (<math>\gamma</math>), F(ab')<sub>2</sub></b>	202-1002	1.0 mg
<b>IgG (H+L)</b>	02-10-06	0.5 mg
	172-1006	2.0 mg
<b>IgG (H+L), F(ab')<sub>2</sub></b>	202-1006	1.0 mg
<b>IgM (<math>\mu</math>)</b>	02-10-03	0.5 mg
<b>IgM (<math>\mu</math>), F(ab')<sub>2</sub></b>	202-1003	1.0 mg
<b>IgA+IgG+IgM (H+L)</b>	02-10-07	0.5 mg
<b>IgA+IgG+IgM (H+L), MSA</b>	02-10-17	0.5 mg
<b>Anti-Monkey</b>		
<b>IgA (<math>\alpha</math>)</b>	072-11-011	1.0 mg
<b>IgG (<math>\gamma</math>)</b>	072-11-021	1.0 mg
<b>IgM (<math>\mu</math>)</b>	072-11-031	1.0 mg
<b>Anti-Mouse</b>		
<b>IgA (<math>\alpha</math>), HSA</b>	02-18-01	0.5 mg
<b>IgG (<math>\gamma</math>), HSA</b>	02-18-02	0.5 mg
<b>IgG (<math>\gamma</math>), F(ab')<sub>2</sub>, HSA</b>	202-1802	1.0 mg
<b>IgG (H+L), HSA</b>	02-18-06	0.5 mg
	172-1806	2.0 mg
<b>IgG (H+L), F(ab')<sub>2</sub>, HSA</b>	202-1806	1.0 mg
<b>IgG (H+L), RbSA, HSA</b>	02-18-18	0.5 mg
<b>IgG (H+L), RtSA, HSA</b>	02-18-15	0.5 mg
<b>IgM (<math>\mu</math>), HSA</b>	02-18-03	0.5 mg
<b>IgA+IgG+IgM (H+L), HSA</b>	02-18-07	0.5 mg
<b>IgG+IgM (H+L), HSA</b>	02-18-09	0.5 mg

**FITC-labeled Antibodies** *continued*

	CATALOG NO.	SIZE
<i>Anti-Peromyscus leucopus</i>		
<b>IgG (H+L)</b>	02-33-06	0.5 mg
<i>Anti-Rabbit</i>		
<b>IgG (H+L)</b>	02-15-06	0.5 mg
	172-1506	2.0 mg
<b>IgG (H+L), F(ab')<sub>2</sub>, HSA</b>	202-1516	1.0 mg
<b>IgG (H+L), HSA</b>	02-15-16	0.5 mg
<b>IgG (H+L), XSA</b>	072-15-061	1.0 mg
<i>Anti-Rat</i>		
<b>IgG (γ)</b>	02-16-02	0.5 mg
<b>IgG (H+L)</b>	02-16-06	0.5 mg
<b>IgG (H+L), MSA</b>	02-16-12	0.5 mg

	CATALOG NO.	SIZE
<i>Rabbit Anti-Sheep</i>		
<b>IgG (γ)</b>	02-23-02	0.5 mg
<b>IgG (H+L)</b>	02-23-06	0.5 mg
<b>IgM (μ)</b>	02-23-03	0.5 mg
<i>Anti-Swine</i>		
<b>IgG (γ)</b>	02-14-02	0.5 mg
<b>IgG (H+L)</b>	02-14-06	0.5 mg
<b>IgM (μ)</b>	02-14-03	0.5 mg
<i>Anti-Turkey</i>		
<b>IgG (H+L)</b>	02-26-06	0.5 mg
<b>Streptavidin</b>	072-30-00	1.0 mg

**TRITC-labeled Antibodies**

	CATALOG NO.	SIZE
<i>Rabbit Anti-Goat</i>		
<b>IgG (H+L)</b>	03-13-06	0.5 mg
<i>Anti-Guinea Pig</i>		
<b>IgG (H+L)</b>	03-17-06	0.5 mg
<i>Anti-Mouse</i>		
<b>IgG (γ), HSA</b>	03-18-02	0.5 mg
<b>IgG (H+L), HSA</b>	03-18-06	0.5 mg
<b>IgG+IgM (H+L), HSA</b>	03-18-09	0.5 mg

	CATALOG NO.	SIZE
<i>Anti-Rabbit</i>		
<b>IgG (H+L)</b>	03-15-06	0.5 mg
<i>Anti-Rat</i>		
<b>IgG (H+L)</b>	03-16-06	0.5 mg
<b>Streptavidin</b>	073-30-00	1.0 mg

**R-PE-labeled Antibodies**

	CATALOG NO.	SIZE
<i>Anti-Mouse</i>		
<b>IgG (H+L), XSA</b>	0718-18-061	1.0 mL
<i>Anti-Rabbit</i>		
<b>IgG (H+L), XSA</b>	0718-15-061	1.0 mL

	CATALOG NO.	SIZE
<i>Anti-Rat</i>		
<b>IgG (H+L), XSA</b>	0718-16-061	1.0 mL
<b>Streptavidin</b>	0718-30-00	1.0 mL

## Cy3-labeled Antibodies

	CATALOG NO.	SIZE
Anti-Chicken		
<b>IgG (H+L)</b>	072-01-24-06	1.0 mg
Rabbit Anti-Goat		
<b>IgG (H+L)</b>	072-01-13-06	1.0 mg
Anti-Human		
<b>IgG (γ)</b>	072-01-10-02	1.0 mg
<b>IgG (H+L)</b>	072-01-10-06	1.0 mg
<b>IgM (μ)</b>	072-01-10-03	1.0 mg
Anti-Mouse		
<b>IgG (γ), HSA</b>	072-01-18-02	1.0 mg
<b>IgG (H+L), HSA</b>	072-01-18-06	1.0 mg

	CATALOG NO.	SIZE
Anti-Mouse <i>continued</i>		
<b>IgG (H+L), RbSA, HSA</b>	072-01-18-18	1.0 mg
<b>IgM (μ), HSA</b>	072-01-18-03	1.0 mg
Anti-Rabbit		
<b>IgG (H+L)</b>	072-01-15-06	1.0 mg
<b>IgG (H+L), HSA</b>	072-01-15-16	1.0 mg
Anti-Rat		
<b>IgG (H+L)</b>	072-01-16-06	1.0 mg
<b>Streptavidin</b>	072-01-30-00	1.0 mg

## Cy5-labeled Antibodies

	CATALOG NO.	SIZE
Anti-Chicken		
<b>IgG (H+L)</b>	072-02-24-06	1.0 mg
Rabbit Anti-Goat		
<b>IgG (H+L)</b>	072-02-13-06	1.0 mg
Anti-Human		
<b>IgG (γ)</b>	072-02-10-02	1.0 mg
<b>IgG (H+L)</b>	072-02-10-06	1.0 mg
<b>IgG (H+L), F(ab')<sub>2</sub></b>	202-02-10-06	1.0 mg
<b>IgM (μ)</b>	072-02-10-03	1.0 mg
Anti-Mouse		
<b>IgG (γ), HSA</b>	072-02-18-02	1.0 mg
<b>IgG (H+L), HSA</b>	072-02-18-06	1.0 mg

	CATALOG NO.	SIZE
Anti-Mouse <i>continued</i>		
<b>IgG (H+L), RbSA, HSA</b>	072-02-18-18	1.0 mg
<b>IgM (μ), HSA</b>	072-02-18-03	1.0 mg
Anti-Rabbit		
<b>IgG (H+L)</b>	072-02-15-06	1.0 mg
<b>IgG (H+L), HSA</b>	072-02-15-16	1.0 mg
Anti-Rat		
<b>IgG (H+L)</b>	072-02-16-06	1.0 mg
<b>Streptavidin</b>	072-02-30-00	1.0 mg



## DyLight 405-labeled Antibodies

	CATALOG NO.	SIZE
Anti-Human		
<b>IgG (H+L), F(ab')<sub>2</sub></b>	202-08-10-06	1.0 mg

## DyLight 488-labeled Antibodies

	CATALOG NO.	SIZE
Anti-Chicken		
<b>IgG (H+L)</b>	072-03-24-06	1.0 mg
Rabbit Anti-Goat		
<b>IgG (H+L)</b>	072-03-13-06	1.0 mg
Anti-Human		
<b>IgG (γ)</b>	072-03-10-02	1.0 mg
<b>IgG (H+L)</b>	072-03-10-06	1.0 mg
	042-03-10-06	0.1 mg
<b>IgM (μ)</b>	072-03-10-03	1.0 mg
Anti-Mouse		
<b>IgG (γ), HSA</b>	072-03-18-02	1.0 mg
<b>IgG (γ), F(ab')<sub>2</sub>, HSA</b>	202-03-18-02	1.0 mg
<b>IgG (H+L), HSA</b>	072-03-18-06	1.0 mg
	042-03-18-06	0.1 mg

	CATALOG NO.	SIZE
<i>Anti-Mouse continued</i>		
<b>IgG (H+L), RbSA, HSA</b>	072-03-18-18	1.0 mg
<b>IgM (μ), HSA</b>	072-03-18-03	1.0 mg
Anti-Rabbit		
<b>IgG (H+L)</b>	072-03-15-06	1.0 mg
	042-03-15-06	0.1 mg
Anti-Rat		
<b>IgG (H+L)</b>	072-03-16-06	1.0 mg
	042-03-16-06	0.1 mg
<b>Streptavidin</b>	072-03-30-00	1.0 mg
	042-03-30-00	0.1 mg

## DyLight 594-labeled Antibodies

	CATALOG NO.	SIZE
Anti-Human		
<b>IgG (H+L)</b>	072-09-10-06	1.0 mg
Anti-Rabbit		
<b>IgG (H+L), F(ab')<sub>2</sub>, HSA</b>	202-09-15-16	1.0 mg

**DyLight 633-labeled Antibodies**

	CATALOG NO.	SIZE
Anti-Human		
<b>IgG (H+L), F(ab')<sub>2</sub></b>	202-10-10-06	1.0 mg
Anti-Mouse		
<b>IgG (H+L), F(ab')<sub>2</sub>, HSA</b>	202-10-18-06	1.0 mg

**DyLight 680-labeled Antibodies**

	CATALOG NO.	SIZE
Anti-Chicken		
<b>IgG (H+L)</b>	072-06-24-06	1.0 mg
Rabbit Anti-Goat		
<b>IgG (H+L)</b>	072-06-13-06	1.0 mg
Anti-Human		
<b>IgG (H+L)</b>	072-06-10-06	1.0 mg
	042-06-10-06	0.1 mg
Anti-Mouse		
<b>IgG (H+L), HSA</b>	072-06-18-06	1.0 mg
	042-06-18-06	0.1 mg
<b>IgG (H+L), RbSA, HSA</b>	072-06-18-18	1.0 mg

	CATALOG NO.	SIZE
Anti-Rabbit		
<b>IgG (H+L)</b>	072-06-15-06	1.0 mg
	042-06-15-06	0.1 mg
<b>IgG (H+L), HSA</b>	072-06-15-16	1.0 mg
<b>IgG (H+L), F(ab')<sub>2</sub>, HSA</b>	202-06-15-16	1.0 mg
Anti-Rat		
<b>IgG (H+L)</b>	072-06-16-06	1.0 mg
<b>Streptavidin</b>	072-06-30-00	1.0 mg
	042-06-30-00	0.1 mg

## DyLight 800-labeled Antibodies

	CATALOG NO.	SIZE
Anti-Chicken		
<b>IgG (H+L)</b>	072-07-24-06	1.0 mg
Rabbit Anti-Goat		
<b>IgG (H+L)</b>	072-07-13-06	1.0 mg
Anti-Human		
<b>IgG (H+L)</b>	072-07-10-06	1.0 mg
	042-07-10-06	0.1 mg
Anti-Mouse		
<b>IgG (H+L), HSA</b>	072-07-18-06	1.0 mg
	042-07-18-06	0.1 mg
<b>IgG (H+L), RbSA, HSA</b>	072-07-18-18	1.0 mg

	CATALOG NO.	SIZE
Anti-Rabbit		
<b>IgG (H+L)</b>	072-07-15-06	1.0 mg
	042-07-15-06	0.1 mg
<b>IgG (H+L), HSA</b>	072-07-15-16	1.0 mg
Anti-Rat		
<b>IgG (H+L)</b>	072-07-16-06	1.0 mg
<b>Streptavidin</b>	072-07-30-00	1.0 mg
	042-07-30-00	0.1 mg

## Conjugate Stabilizers

	CATALOG NO.	SIZE
HRP Stabilizer	54-15-01	200 mL
AP Stabilizer	55-15-00	200 mL



## Why choose **KPL BacTrace<sup>®</sup> Antibodies**

KPL BacTrace anti-bacteria antibodies have served as key immunoreagents for life scientists and diagnostic kit manufacturers in food pathology and infectious disease for 30 years. These primary polyclonal antibodies have proven to be a powerful set of tools for the detection of human, animal, and plant pathogens.

BacTrace antibodies are prepared by a proprietary method that yields highly characterized antibodies with excellent specificity and sensitivity. As such, the antibodies offer a range of benefits in the development of high-performance immunoassays. BacTrace affinity purified antibodies offer excellent specificity and sensitivity in immunoassays such as ELISA, Western blot, lateral flow, agglutination, flow cytometry, and immunofluorescence. Since they are more sensitive than many commercially available monoclonal antibodies, BacTrace antibodies are ideal for use in the research laboratory, for environmental monitoring, and for food and beverage analysis.

With KPL BacTrace antibodies, researchers can count on:

- Enhanced sensitivity - Affinity purified polyclonal antibodies provide maximal detection of the antigen of interest. They recognize a variety of cell surface and intracellular antigens of bacterial cells, thereby greatly amplifying the signal compared to monoclonal antibodies.
- Excellent specificity - Affinity purification selects for the antibody of interest and enables production of antibodies with high specificity for the target antigen and minimal cross-reactivity.
- Lot-to-lot reproducibility - High correlation between antibody lots is verified by extensive in-house testing.

BacTrace antibodies are available unlabeled and labeled with enzymes, fluorophores, magnetic beads and other tags for use in ELISA, Western blot, immunohistochemistry or fluorescence microscopy. Positive control antigens are also available. KPL's line of primary polyclonal antibodies consists of 28 antibodies with 9 different tags.

## Unlabeled BacTrace Antibodies

	CATALOG NO.	SIZE
<b>Human Pathogens</b>		
Food-borne Pathogens		
Anti- <i>Campylobacter</i> species	01-92-93	1.0 mg
Anti- <i>E. coli</i> O103	01-95-93	1.0 mg
	011-95-93	0.1 mg
Anti- <i>E. coli</i> O104	01-95-98	1.0 mg
	011-95-98	0.1 mg
Anti- <i>E. coli</i> O111	01-95-91	1.0 mg
	011-95-91	0.1 mg
Anti- <i>E. coli</i> O121	01-95-95	1.0 mg
	011-95-95	0.1 mg
Anti- <i>E. coli</i> O145	01-95-94	1.0 mg
	011-95-94	0.1 mg
Anti- <i>E. coli</i> O157:H7	01-95-90	1.0 mg
Anti- <i>E. coli</i> O157:H7, Molecular Grade	01-95-90-MG	1.0 mg
Anti- <i>E. coli</i> O26	01-95-92	1.0 mg
	011-95-92	0.1 mg
Anti- <i>E. coli</i> O45	01-95-96	1.0 mg
	011-95-96	0.1 mg
Anti- <i>E. coli</i> O91	01-95-99	1.0 mg
	011-95-99	0.1 mg
Anti- <i>Listeria</i> species	01-90-90	1.0 mg
Anti- <i>Listeria</i> species, High Sensitivity	01-90-95	1.0 mg
Anti- <i>Salmonella</i> Common Structural Antigen (CSA-1)	01-91-99	1.0 mg
Anti- <i>Salmonella</i> (CSA-1), Molecular Grade	01-91-99-MG	1.0 mg
Rabbit Anti- <i>Shigella</i> species	01-90-01	1.0 mg
Rabbit Anti- <i>Vibrio cholerae</i>	01-90-50	0.5 mg
Rabbit Anti- <i>Vibrio</i> species	01-90-02	1.0 mg

	CATALOG NO.	SIZE
Communicable Pathogens		
Anti- <i>Helicobacter pylori</i>	01-93-94	1.0 mg
Anti- <i>Staphylococcus aureus</i>	01-90-05	1.0 mg
	011-90-05	0.1 mg
Anti- <i>Streptococcus pyogenes</i> (Group A)	01-90-07	1.0 mg
	011-90-07	0.1 mg
Anti- <i>Streptococcus agalactiae</i> (Group B)	01-90-08	1.0 mg
	011-90-08	0.1 mg
Zoonotic Pathogens		
Anti- <i>Borrelia burgdorferi</i>	01-97-91	1.0 mg
Anti- <i>Borrelia</i> species	01-97-92	1.0 mg
Rabbit Anti- <i>Yersinia</i> species	01-90-04	1.0 mg
Environmental Pathogens		
Rabbit Anti- <i>Legionella</i> species	01-90-03	1.0 mg
Animal Pathogens		
Anti- <i>Renibacterium salmoninarum</i>	01-96-91	1.0 mg
Plant Pathogens		
Rabbit Anti- <i>Clavibacter michiganensis</i> ssp. <i>michiganensis</i>	01-90-51	1.0 mg
	011-90-51	0.1 mg

## HRP-labeled BacTrace Antibodies

	CATALOG NO.	SIZE
<b>Human Pathogens</b>		
Food-borne Pathogens		
Anti- <i>Campylobacter</i> species	04-92-93	0.1 mg
Anti- <i>E. coli</i> O103	04-95-93	0.1 mg
Anti- <i>E. coli</i> O111	04-95-91	0.1 mg
Anti- <i>E. coli</i> O121	04-95-95	0.1 mg
Anti- <i>E. coli</i> O145	04-95-94	0.1 mg
Anti- <i>E. coli</i> O157:H7	04-95-90	0.1 mg
Anti- <i>E. coli</i> O26	04-95-92	0.1 mg
Anti- <i>E. coli</i> O45	04-95-96	0.1 mg
Anti- <i>Listeria</i> species	04-90-90	0.1 mg
Anti- <i>Salmonella</i> Common Structural Antigen (CSA-1)	04-91-99	0.1 mg
Rabbit Anti- <i>Shigella</i> species	04-90-01	0.1 mg

	CATALOG NO.	SIZE
Food-borne Pathogens <i>continued</i>		
Rabbit Anti- <i>Vibrio</i> species	04-90-02	0.1 mg
Communicable Pathogens		
Anti- <i>Helicobacter pylori</i>	04-93-94	0.1 mg
Zoonotic Pathogens		
Anti- <i>Borrelia burgdorferi</i>	04-97-91	0.1 mg
Anti- <i>Borrelia</i> species	04-97-92	0.1 mg
Rabbit Anti- <i>Yersinia</i> species	04-90-04	0.1 mg
Environmental Pathogens		
Rabbit Anti- <i>Legionella</i> species	04-90-03	0.1 mg
<b>Animal Pathogens</b>		
Anti- <i>Renibacterium salmoninarum</i>	04-96-91	0.1 mg

## Biotin-labeled BacTrace Antibodies

	CATALOG NO.	SIZE
<b>Human Pathogens</b>		
Food-borne Pathogens		
Anti- <i>E. coli</i> O103	16-95-93	0.5 mg
Anti- <i>E. coli</i> O111	16-95-91	0.5 mg
Anti- <i>E. coli</i> O121	16-95-95	0.5 mg
Anti- <i>E. coli</i> O145	16-95-94	0.5 mg
Anti- <i>E. coli</i> O157:H7	16-95-90	0.5 mg
Anti- <i>E. coli</i> O26	16-95-92	0.5 mg
Anti- <i>E. coli</i> O45	16-95-96	0.5 mg

	CATALOG NO.	SIZE
Food-borne Pathogens <i>continued</i>		
Anti- <i>Listeria</i> species	16-90-90	0.5 mg
Anti- <i>Salmonella</i> Common Structural Antigen (CSA-1)	16-91-99	0.5 mg
Rabbit Anti- <i>Shigella</i> species	16-90-01	0.5 mg
Rabbit Anti- <i>Vibrio</i> species	16-90-02	0.5 mg
Zoonotic Pathogens		
Rabbit Anti- <i>Yersinia</i> species	16-90-04	0.5 mg
Environmental Pathogens		
Rabbit Anti- <i>Legionella</i> species	16-90-03	0.5 mg

**DyLight 488-labeled BacTrace Antibodies**

	CATALOG NO.	SIZE
<b>Human Pathogens</b>		
Food-borne Pathogens		
Anti- <i>E. coli</i> O103	072-03-95-93	0.5 mg
Anti- <i>E. coli</i> O111	072-03-95-91	0.5 mg
Anti- <i>E. coli</i> O121	072-03-95-95	0.5 mg
Anti- <i>E. coli</i> O145	072-03-95-94	0.5 mg
Anti- <i>E. coli</i> O26	072-03-95-92	0.5 mg
Anti- <i>E. coli</i> O45	072-03-95-96	0.5 mg
Rabbit Anti- <i>Shigella</i> species	072-03-90-01	0.5 mg
Rabbit Anti- <i>Vibrio</i> species	072-03-90-02	0.5 mg
Zoonotic Pathogens		
Rabbit Anti- <i>Yersinia</i> species	072-03-90-04	0.5 mg
Environmental Pathogens		
Rabbit Anti- <i>Legionella</i> species	072-03-90-03	0.5 mg

**AP-labeled BacTrace Antibodies**

	CATALOG NO.	SIZE
<b>Human Pathogens</b>		
Food-borne Pathogens		
Anti- <i>Borrelia burgdorferi</i>	05-97-91	0.1 mg
Anti- <i>Campylobacter</i> species	05-92-93	0.1 mg
Anti- <i>E. coli</i> O157:H7	05-95-90	0.1 mg
Anti- <i>Salmonella</i> Common Structural Antigen (CSA-1)	05-91-99	0.1 mg
<b>Animal Pathogens</b>		
Anti- <i>Renibacterium salmoninarum</i>	05-96-91	0.1 mg

**FITC-labeled BacTrace Antibodies**

	CATALOG NO.	SIZE
<b>Human Pathogens</b>		
Food-borne Pathogens		
Anti- <i>Campylobacter</i> species	02-92-93	0.5 mg
Anti- <i>E. coli</i> O157:H7	02-95-90	0.5 mg
Anti- <i>Listeria</i> species	02-90-90	0.5 mg
Anti- <i>Salmonella</i> Common Structural Antigen (CSA-1)	02-91-99	0.5 mg
Communicable Pathogens		
Anti- <i>Helicobacter pylori</i>	02-93-94	0.5 mg
Zoonotic Pathogens		
Anti- <i>Borrelia burgdorferi</i>	02-97-91	0.5 mg
Anti- <i>Borrelia</i> species	02-97-92	0.5 mg
<b>Animal Pathogens</b>		
Anti- <i>Renibacterium salmoninarum</i>	02-96-91	0.5 mg

**ReserveAP-labeled BacTrace Antibodies\***

	CATALOG NO.	SIZE
<b>Human Pathogens</b>		
Food-borne Pathogens		
Anti- <i>Listeria</i> species	051-90-90	0.1 mg
Zoonotic Pathogens		
Anti- <i>Borrelia burgdorferi</i>	051-97-91	0.1 mg

\* Highest grade of AP combined with KPL's proprietary conjugation technology creates most sensitive conjugates.



**Magnetic Bead-labeled BacTrace Antibodies**

	CATALOG NO.	SIZE
<b>Human Pathogens</b>		
Food-borne Pathogens		
<b>Anti-<i>E. coli</i> O103</b>	082-01-95-93	1.0 mL
<b>Anti-<i>E. coli</i> O111</b>	082-01-95-91	1.0 mL
<b>Anti-<i>E. coli</i> O121</b>	082-01-95-95	1.0 mL
<b>Anti-<i>E. coli</i> O145</b>	082-01-95-94	1.0 mL
<b>Anti-<i>E. coli</i> O157:H7</b>	082-01-95-90	1.0 mL
<b>Anti-<i>E. coli</i> O26</b>	082-01-95-92	1.0 mL
<b>Anti-<i>E. coli</i> O45</b>	082-01-95-96	1.0 mL
<b>Anti-<i>Salmonella</i> Common Structural Antigen (CSA-1)</b>	082-01-91-99	1.0 mL

**Latex Bead-labeled BacTrace Antibodies**

	CATALOG NO.	SIZE
<b>Human Pathogens</b>		
Food-borne Pathogens		
<b>Anti-<i>E. coli</i> O103</b>	082-02-95-93	1.0 mL
<b>Anti-<i>E. coli</i> O111</b>	082-02-95-91	1.0 mL
<b>Anti-<i>E. coli</i> O121</b>	082-02-95-95	1.0 mL
<b>Anti-<i>E. coli</i> O145</b>	082-02-95-94	1.0 mL
<b>Anti-<i>E. coli</i> O157:H7</b>	082-02-95-90	1.0 mL
<b>Anti-<i>E. coli</i> O26</b>	082-02-95-92	1.0 mL
<b>Anti-<i>E. coli</i> O45</b>	082-02-95-96	1.0 mL
<b>Anti-<i>Salmonella</i> Common Structural Antigen (CSA-1)</b>	082-02-91-99	1.0 mL

**Positive Controls**

	CATALOG NO.	SIZE
<b>Human Pathogens</b>		
Food-borne Pathogens		
<b><i>Campylobacter</i> species</b>	50-92-93	1 vial
<b><i>E. coli</i> O103:H8</b>	50-95-93	1 vial
<b><i>E. coli</i> O111:H8</b>	50-95-91	1 vial
<b><i>E. coli</i> O121:H19</b>	50-95-95	1 vial
<b><i>E. coli</i> O145:H2</b>	50-95-94	1 vial
<b><i>E. coli</i> O157:H7</b>	50-95-90	1 vial
<b><i>E. coli</i> O26:H11</b>	50-95-92	1 vial
<b><i>E. coli</i> O45:H2</b>	50-95-96	1 vial
<b><i>Listeria</i> species</b>	50-90-90	1 vial
<b><i>Salmonella typhimurium</i></b>	50-74-01	1 vial
<b><i>Shigella</i> species</b>	50-90-01	1 vial
<b><i>Vibrio</i> species</b>	50-90-02	1 vial

	CATALOG NO.	SIZE
Communicable Pathogens		
<b><i>Helicobacter pylori</i></b>	50-93-94	1 vial
<b><i>Staphylococcus aureus</i></b>	50-90-05	1 vial
<b><i>Streptococcus pyogenes</i> (Group A)</b>	50-90-07	1 vial
<b><i>Streptococcus agalactiae</i> (Group B)</b>	50-90-08	1 vial
Zoonotic Pathogens		
<b><i>Borrelia burgdorferi</i></b>	50-97-91	1 vial
<b><i>Yersinia enterocolitica</i></b>	50-90-04	1 vial
Environmental Pathogens		
<b><i>Legionella pneumophila</i></b>	50-90-03	1 vial
<b>Animal Pathogens</b>		
<b><i>Renibacterium salmoninarum</i></b>	50-96-91	1 vial

# SeraCare Custom Solutions



SeraCare has more than 30 years of experience delivering custom solutions to researchers, diagnostic manufacturer and clinical labs. From custom panels and controls to antibodies and IVD kits, we can deliver the high quality and performance that you require.

We understand that your business partnerships depend on expertise, quality and a commitment to your success. Our custom product collaborations are based on our appreciation of the needs of researchers, assay developers, process engineers and clinical labs. We can help bring your custom products to market and shorten adoption timelines.

# A Partner you can trust

## Antibodies

Our complete line of polyclonal antibodies is available for custom conjugations and custom purification. In addition to highly specific unlabeled antibodies, we offer many labeling options to create sensitive antibody conjugates for detection applications.

**Custom Conjugations** We are experts in antibody conjugation and can conjugate your polyclonal or monoclonal with enzymes (peroxidase and phosphatase), fluorochromes, biotin, and microparticles to meet your assay needs.

**Custom Antibody Purification** SeraCare can purify your polyclonal or monoclonal antibody quickly and efficiently with our proprietary affinity purification technology. Options include Protein A, Protein G, and ion exchange purifications.

Whether you need antibody purification or custom conjugations, SeraCare's scientists will help you select the best option and offer expert guidance and technical assistance to help you reach product development goals faster.

## Reagents

SeraCare offers a comprehensive portfolio of more than 800 immunoassay products that can power your ELISA, Western blot, and immunohistochemistry applications. We can offer you colorimetric and chemiluminescent stable liquid substrates for peroxidase and phosphatase detection as well as blockers, wash solutions, buffers and stopping reagents either in kit format or as stand alone reagents.

**Bulk and Custom Packaging** All of our products are available off the shelf or can be customized to meet your packaging requirements. We will accommodate your specific requirements for bulk sizing, packaging, or labeling.

## Full Range of Custom Solutions

SeraCare offers a broad range of tailored products and custom manufacturing to meet the needs of all of our customers, including:

**Assay Development Services** Focus on assay design and validation, leaving the development and production of key components to our experts. Our team has worked with many of the leading assay manufacturers and brings extensive experience across a broad range of assay types.

**Proficiency Panel Design** Leverage our expertise to design and formulate a custom proficiency panel solution to meet your needs. Our expertise in serving the needs of clinical labs worldwide will help you anticipate the requirements of your end users.

**Validation Kits** Partner with SeraCare to develop specialized validation kits to aid in the adoption of your new assay. Speed the time it takes your customers to validate and adopt new instrument platforms, accelerating assay revenue from clinical sites with a plug and play solution.

**AccuPlex Recombinant Controls** Count on SeraCare to meet your need for high-quality recombinant viral control materials that deliver true process control through RNA and DNA viral vectors derived from mammalian-based recombinants.

**Companion Diagnostics** Rely on SeraCare to jump start your design, development and production. We have experience working with leading pharmaceutical companies to help them bring new companion diagnostic solutions to market.

**Custom Manufacturing and Packaging** Gain speed and reduce risk with robust quality systems and regulatory landscape understanding. SeraCare can meet your manufacturing and packaging specifications.

## SeraCare Complete BioCollections™

Whether you're researching new assays or developing new validation protocols, we can provide the highly characterized, documented disease state materials you need to achieve your goals. SeraCare's Complete BioCollections has the inventory and global collection capability to deliver the biological materials to meet your requirements, processed to your specialized needs. We offer an extensive inventory of readily available, highly characterized materials as well as prospective collections services, so you can spend less time searching and more time innovating.

# SeraCare Panels

Confidence starts with quality control materials you can trust. At SeraCare, we go above and beyond to provide products that deliver reliable performance, test after test. Our panels are designed to deliver the consistent results you require to gain confidence in your quality assurance materials.

## AccuSet™ Performance Panels

	CATALOG NO.	FILL SIZE		CATALOG NO.	FILL SIZE
<b>Hepatitis Performance Panels</b>			<b>HIV Performance Panels</b> <i>continued</i>		
HBsAg Low Titer	PHA107-1.5	21 x 1.5 mL	Anti-HIV-2	PRF203-1.0	11 x 1.0 mL
HBsAg Mixed Titer	PHA207-1.5	21 x 1.5 mL	Anti-HIV-1/2 Combo	PRZ208-0.25	15 x 0.25 mL
Anti-HAV Mixed Titer	PHT202-1.2	25 x 1.2 mL	Worldwide HIV	WWRB305-0.5	20 x 0.5 mL
Anti-HCV Low Titer	PHV106(M)-1.0	14 x 1.0 mL	<b>ToRCH Performance Panels</b>		
Anti-HCV Mixed Titer	PHV207-1.0	25 x 1.0 mL	Anti-Rubella Mixed Titer	PTR201-00-0.5	25 x 0.5 mL
Anti-HBc IgM Mixed Titer	PHE203-1.0	25 x 1.0 mL	Anti-CMV Mixed Titer	PTC203-1.2	21 x 1.2 mL
HCV Genotype	PHW204-1.2	9 x 1.2 mL	Anti-Toxoplasma gondii Mixed Titer	PTT202-1.2	21 x 1.2 mL
Worldwide HBV DNA	WWHD301-1.2	20 x 1.2 mL	Anti-HSV 1/2 Mixed Titer	PTH202-1.2	21 x 1.2 mL
<b>HIV Performance Panels</b>			<b>Other Performance Panels</b>		
HIV p24 Antigen Mixed Titer	PRA204-1.5	25 x 1.5 mL	Anti-EBV Mixed Titer	PME202-1.2	21 x 1.2 mL
Anti-HIV-1 Low Titer	PRB109-1.0	20 x 1.0 mL	Anti-T. cruzi (Chagas) Performance Panel	PMT204-1.2	21 x 1.2 mL
Anti-HIV-1 Mixed Titer	PRB205(M)-1.0	24 x 1.0 mL	Anti-HTLV 1/11 Mixed Titer	PRP208-1.2	21 x 1.2 mL
HIV-1 Incidence/Prevalence	PRB601-1.0	15 x 1.0 mL	Lyme Mixed Titer	PTL202-00-0.5	15 x 0.5 mL
HIV-1 Genotype	PRD201-1.2	9 x 1.2 mL	Parvo B19 Mixed Titer	PVP201-1.2	21 x 1.2 mL
HIV-1 RNA Genotype	PRD202-1.1	10 x 1.1 mL	Anti-Dengue Mixed Titer Performance Panel	PVD201-1.2	21 x 1.2 mL
HIV Drug Resistance	PRD250-1.0	10 x 1.0 mL			

## AccuSpan™ Linearity Panels

	CATALOG NO.	FILL SIZE
<b>Sensitivity and Linearity Panels</b>		
HBV DNA Linearity Panel	PHD802-1.2	9 x 1.2 mL
HCV RNA Linearity Panel	PHW805-1.2	8 x 1.2 mL
HIV-1 RNA Linearity Panel	PRD802-3.5	8 x 3.5 mL

## AccuVert™ Seroconversion Panels

	CATALOG NO.	FILL SIZE
HIV Seroconversion Panels		
HIV-1 Panel AS	PRB943-00-1.0	7 x 1.0 mL
HIV-1 Panel AU	PRB945-00-1.0	6 x 1.0 mL
HIV-1 Panel AX	PRB948-00-1.0	4 x 1.0 mL
HIV-1 Panel AZ	PRB950-00-1.0	4 x 1.0 mL
HIV-1 Panel BE	PRB955-1.0	5 x 1.0 mL
HIV-1 Panel BF	PRB956-1.0	5 x 1.0 mL
HIV-1 Panel BH	PRB958-1.0	6 x 1.0 mL
HIV-1 Panel	PRB962-1.0	6 x 1.0 mL
HIV-1 Panel	PRB963-1.0	7 x 1.0 mL
HIV-1 Panel	PRB964-1.0	6 x 1.0 mL
HIV-1 Panel	PRB966-1.0	10 x 1.0 mL
HIV-1 Panel	PRB970-1.0	4 x 1.0 mL
HIV-1 Panel	PRB972-1.0	6 x 1.0 mL
HIV-1 Panel	PRB973-1.2	4 x 1.2 mL
HIV-1 Panel	PRB975-1.2	5 x 1.2 mL
HIV-1 Panel	PRB976-1.2	4 x 1.2 mL
HIV-1 Panel	PRB978-1.2	7 x 1.2 mL
Hepatitis Seroconversion Panels		
Hepatitis A Panel	PHT903-1.0	10 x 1.0 mL
Hepatitis B Panel	PHM918-00-1.5	3 x 1.5 mL
Hepatitis B Panel	PHM921-00-1.5	6 x 1.5 mL
Hepatitis B Panel	PHM924-00-1.5	5 x 1.5 mL
Hepatitis B Panel	PHM934(M)-1.5	5 x 1.5 mL
Hepatitis B Panel	PHM936-1.5	8 x 1.5 mL
Hepatitis B Panel	PHM937-1.5	5 x 1.5 mL
Hepatitis B Panel	PHM938-1.5	6 x 1.5 mL
Hepatitis B Panel	PHM939-1.5	5 x 1.5 mL

	CATALOG NO.	FILL SIZE
Hepatitis Seroconversion Panels <i>continued</i>		
Hepatitis C Panel	PHV911(M)-1.0	4 x 1.0 mL
Hepatitis C Panel	PHV912-00-1.0	3 x 1.0 mL
Hepatitis C Panel	PHV913-00-1.0	4 x 1.0 mL
Hepatitis C Panel	PHV915-00-1.0	9 x 1.0 mL
Hepatitis C Panel	PHV917-1.0 (M)	9 x 1.0 mL
Hepatitis C Panel	PHV918(M)-1.0	7 x 1.0 mL
Hepatitis C Panel	PHV919-1.0	7 x 1.0 mL
Hepatitis C Panel	PHV920(M)-1.0	9 x 1.0 mL
Hepatitis C Panel	PHV921-1.0	11 x 1.0 mL
Hepatitis C Panel	PHV922-1.2	6 x 1.2 mL
Hepatitis C Panel	PHV923-1.2	6 x 1.2 mL
Hepatitis C Panel	PHV924-1.2	6 x 1.2 mL
Hepatitis C Panel	PHV925-1.2	5 x 1.2 mL
Hepatitis C Panel	PHV926-1.2	5 x 1.2 mL
Other Seroconversion Panels		
West Nile Virus Panel	PWN901-1.5	5 x 1.5 mL

## AccuTrak™ Qualification Panels

	CATALOG NO.	FILL SIZE
HIV RNA/HCV RNA/HBV DNA	QCA702-4.0	5 x 4.0 mL
HBsAg	QHA711-2.0	6 x 2.0 mL
Anti-HBc	QHG711-2.0	6 x 2.0 mL
Anti-HCV	QHV711-1.0	6 x 1.0 mL
Anti-HCV	QHV712-1.0	6 x 1.0 mL
Anti-HTLV I/II	QRP712-1.5	6 x 1.5 mL
Anti-HIV-1/2	QRZ761-1.0	6 x 1.0 mL
HPV	QSH701-4.0	25 x 4.0 mL
Syphilis	QSS701-2.0	6 x 2.0 mL
Anti-CMV	QTC711-3.0	6 x 3.0 mL
Anti-HIV-1/2 Verification Panel	VRZ603-0.5	5 x 0.5 mL
HIV 1/2/O/p24 Qualification Panel	QRX701-3.5	6 x 3.5 mL
Anti-HTLV I/II Qualification Panel	QRP713-1.5	6 x 1.5 mL

