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# Active Blockers

# Heterophilic Blocking Reagent (HBR)

Conventional, passive blocking methods use nonspecific substances (mouse IgG, mouse serum, nonspecific monoclonal antibodies, aggregated IgG, etc.) to block the binding of the human heterophilic antibody. All of these approaches rely on the affinity of the human heterophilic antibody, which is typically in the K-value range of 105-106, to affect the blocking.

Scantibodies HBR (Heterophilic Blocking Reagent) accomplishes its binding by a completely different approach. HBR is a specific binder that is directed against the human heterophilic antibody, and the blocking is accomplished by steric hindrance. The HBR blocking is effected by the specific binder which has an affinity in the range of K = 109.

The specific binding action of the HBR, coupled with the thousand times higher affinity in the reaction, results in the following advantages of HBR over conventional blocking methods:

- With HBR, less protein is required for blocking (no decrease in assay signal).
- HBR blocks more false positives than are blocked with conventional methods.
- HBR blocks all anti-species (anti-rabbit, anti-goat, as well as anti-mouse).
- The use of HBR does not have to be avoided in certain tests, as in the case in which an analyte-specific monoclonal antibody is used for blocking.
- HBR blocks all anti-subtypes of mouse monoclonals (example:

anti-mouse IgG1, anti-mouse IgG2, etc.); where as, the use of one monoclonal antibody such as IgG1, will only block human antibodies to that subspecies of monoclonal antibodies.

Scantibodies offers a large selection of HBR formulations to ensure that there is a version that will work for you.

# SCANTIBODIES HBR PRODUCTS FOR ASSAY DEVELOPMENT

# **3KG775 - Assay Development Blocking Kit**

This kit has been designed for those products that are currently in assay development. It contains 11 of our different HBR products (including our HBR 20 series) all of which have been carefully selected to be used as an aid in developing a reagent blocking formulation to eliminate false positive or negative interferences, and to ensure that they are useful for both active and passive blocking.

# The Assay Development Blocking Kit includes:





# SCANTIBODIES HBR PRODUCTS FOR ASSAY MANUFACTURERS

# HBR 1 (3KC533) Purified, 20 mg/ml

3KC533 contains specific murine immunoglobulins that block the heterophilic interaction by active binding to the heterophilic antibodies, which are capable of cross-linking the capture and the detection antibodies used in the immunoassay, resulting in false positive readings. The attachment of HBR-1 to the heterophilic antibodies blocks this cross-linking, and eliminates the interference caused by the heterophilic antibodies in the humoral fluids. In addition to its active blocking, this product is also characteristic of its passive blockage of the heterophilic interaction as well. The HBR is a liquid reagent with a protein concentration of  $20 \pm 2 \text{ mg/ml}$ . The immunoglobulins are dissolved in a phosphate buffer with a pH of 7.2-7.6. The immunoglobulins in this product are at a purity of greater than or equal to 95%.

# HBR 3 (3KC576) Purified

Each vial contains approximately 4 mg of murine immunoglobulins. This product represents a variation in formulation with similar essential characteristics compared to HBR-1-Purified. The special formulation is designed to enhance its blocking capability at a lower concentration of immunoglobulins.

#### HBR 6 (3KC542) Purified

3KC542 is specially formulated to enhance its heterophilic blocking ability. The immunoglobulins in this reagent are at a purity of greater than or equal to 95%. It has the concentration 3.0 - 6.0 mg/ml.

# HBR Plus (3KC545) Purified

3KC545 was developed as an alternative for HBR-1. This product is compounded with immunoglobulins with different characteristics. Therefore, in addition to its active blocking characteristics, the special formulation and production procedures enhance its efficacy in its passive blocking ability as well. It has a concentration of 10.0 + -1.0 mg/ml.

#### HBR 9 (3KC564) Purified

The HBR-9 is also one of our newly formulated products developed as an alternative for the HBR Plus, 3KC545. It contains murine immunoglobulins with different characteristics. It is specially formulated for application for immunoassays in which both the capture and detection antibodies are of murine origin. Like HBR Plus, this product is characteristic for its active as well as passive blocking efficacy. Each vial of this product contains approximately 20 mg of immunoglobulins, which are at a purity of greater than 90%, as shown by SDS-PAGE.

#### HBR 11 (3KC565) Purified

3KC565 has been formulated with murine immunoglobulins. In addition to the products listed above, HBR-11 provides our customers with more selection for heterophilic blockage. The immunoglobulins in this product are at a purity of greater than or equal to 90%. It has a concentration of 10.0 +/- 1.0 mg/ml.

#### HBR 21 (3KC002)

The HBR-21 is also one of our newly formulated products. In addition to the products listed above, the HBR-21 provides our customers with more selection for heterophilic blockage. Each vial of this product contains approximately 10 mg of immunoglobulins

#### HBR 22 (3KC003)

The HBR-22 is also one of our newly formulated products. In addition to the products listed above, the HBR-22 provides our customers with more selection for heterophilic blockage. Each vial of this product contains approximately 10 mg of immunoglobulins

#### HBR 23 (3KC006)

The HBR-23 is also one of our newly formulated products. This product is formulated with murine immunoglobulins. In addition to the products listed above, the HBR-23 provides our customers with more selection for heterophilic blockage. Each vial of this product contains approximately 10 mg of immunoglobulins

#### HBR 24 (3KC007)

The HBR-24 is also one of our newly formulated products. This product is formulated with murine immunoglobulins. In addition to the products listed above, the HBR-24 provides our customers with more selection for heterophilic blockage. Each vial of this product contains approximately 10 mg of immunoglobulins

#### HBR 26 (3KC009)

The HBR-26 is also one of our newly formulated products.. In addition to the products listed above, the HBR-26 provides our customers with more selection for heterophilic blockage. Each vial of this product contains approximately 10 mg of immunoglobulins

# SCANTIBODIES BLOCKING REAGENTS FOR CLINICAL LABS, HOSPITALS ETC.

#### 3IX761 - Nonspecific Antibody Blocking Tube (NABT)

3IX761 contains immunoglobulins which the non-specific antibodies in the serum or plasma samples bind to, thus causing them to be blocked from interfering in antibody detection immunoassays. The NABT also allows for the rapid and simple elimination of false positive non-specific antibody interference in plasma or serum for detection assays (i.e., anti-HCV, HIV, Toxoplasmosis, Rubella, CMV, Herpes, Tg, Thyroglobulin, TPO Thrombopoietin, etc.). The reagent is in the form of a lyophilized pellet at the bottom of the tube and each tube contains enough reagents to inactivate the non-specific antibodies in 500 µl of sample material.

#### **3IX762 - Heterophilic Blocking Tubes (HBT)**

3IX762 contains a unique blocking reagent composed of specific binders which inactivate heterophilic antibodies. Once the specific binders have bound to the heterophilic antibodies, the antibodies are no longer able to cause immunoassay interference. The reagent is in the form of a lyophilized pellet at the bottom of the tube and each tube contains enough reagents to inactivate the heterophilic antibodies in 500  $\mu$ I of sample material. The HBT also allows for the rapid and simple elimination of false positive heterophilic interference in plasma or serum for immunoassays (i.e., FSH, LH, Prolactin, TSH, Ferritin, CEA, AFP, hCG, HBsAg, CK-MB, CA 125, CA 19-9, NSE, etc.).