ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

□ Cat# **IBRGB11-S**	Recombivirus Bovine/Cow Infectious Bovine Rhinotracheitis (IBR) gB) antiserum	SIZE:100 ul
□ Cat# **IBRGB11-C**	Recombivirus Bovine/Cow Infectious Bovine Rhinotracheitis (IBR) gB western blot Control	SIZE:100 ul

Infectious Bovine Rhinotracheitis (IBR) commonly referred to as "Red nose," is a highly contagious, infectious disease that is caused by Bovine Herpesvirus-1 (BHV-1, the family Herpesviridae and the subfamily Alphaherpesvirinae) which affects young and older cattle. IBR is often implicated as an infection which initiates the shipping fever complex. In addition to causing respiratory disease, this virus can cause conjunctivitis, abortions, encephalitis, and generalized systemic infections. IBR is characterized by acute inflammation of the upper respiratory tract. IBR was originally recognized during the early 1950s in feeder cattle in the western US. The IBR virus can persist in clinically recovered animals for years. The virus remains inactive until the animal is placed under stress. The virus is shed in secretions from the eye nose and reproductive organs. The clinical diseases caused by the virus can be grouped into: 1) respiratory tract infections 2) eye infections 3) abortions 4) genital infections 5) brain infections 6) generalized infections of newborn calves. IBR has worldwide distribution and is one of the most common virus infections of cattle in the United States. It is found wherever cattle are maintained. Approximately 50 percent of the adult cattle population has had experience with this disease.

BoHV-1 has a relatively long, double stranded DNA genome. It is 135,300 base pairs in length, has a 72% guanine/cytosine content, and has 73 open reading frames (ORFs) BoHV-1 has a class D herpesvirus genome, which means that its genome contains two unique regions, one long and one short (UL and US), the second of which is flanked by inverted repeats (IR and TR). BoHV-1 is a DNA virus with several structural proteins among which at least 11 transmembrane glycoproteins. Glycoproteins play important roles such as virus-cell interactions and interactions with the immune system. Glycoproteins gB, gD, gH, gK, gL are essential for virus replication, while gC, gG, gI, gE, gM and gN are not essential.
Polymerase chain reaction (PCR) is used to detect very small quantities of virus in nasal secretions or tissue. Because of its high sensitivity, this technique may specifically find important application as a detection method of BHV-1 in bovine semen. Virus neutralization (VN) tests or enzyme-linked immunosorbent assays (ELISAs indirect or gB-blocking) is one of the most relevant diagnostic tools for the detection of BHV-1 infected herds.

There is no direct treatment for the infection. Antibiotic treatment of secondary infections may be necessary. The best way to control IBR is to vaccinate before a disease outbreak occurs (replicating or non-replicating vaccines) although there are fast acting intranasal vaccines that will confer short-lived immunity. Currently available vaccines for IBR include modified-live-virus (MLV) vaccines and inactivated or killed-virus (KV) vaccines. Zoetis Bovi-Shield GOLD® FP® and PregGuard GOLD® FP® vaccines are approved for use in pregnant cows or calves nursing pregnant cows provided the cows have been vaccinated prior to breeding. Appropriate biosecurity will also reduce risk on farm.

Source of Antigen and Antibodies

Antigen	Recombinant purified IBRgB ~123 kDa (876 aa)
Ab Host/type	Rabbit, polyclonal, Unpurified antiserum (**cat # IBRgB11-S**)
2-ab	**Goat Anti-rabbit IgG-HRP** cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control IgG	**# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control**

Bovine Rhinotracheitis (IBRgB) is expressed in *E.coli* and purified using proprietary technique (>95%, ~123 kDa). Purified recombinant IBRgB for Western blot +ve control (#IBRgB11-C) is supplied in SDS-PAGE sample buffer. Store at -20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels.

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

□ 100ul □ □ solution □ lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Storage

Short-term: unopened, undiluted liquid vials at -20°C and powder at 4oC or -20oC.

Long-term: at –20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder

Recommended Usage

ELISA, Western blot, Cellular Activity

Specificity & Cross-reactivity

Bovine Rhinotracheitis (IBRgB, 876-aa, protein accession # P12640.1) is conserved in Bovine herpesvirus1 (100%), Caprine herpesvirus1 (80%), Suid herpesvirus1 (62%) and Human herpesvirus2 (49%).

General References: Whitbeck JC, Bello LJ, Lawrence WC (1988) J.Virol. 62, 3319-3327.

**This product is for In vitro research use only.*

Related material available from ADI

Catalog# Prod Description

RV-500300-1 Recombivirus Bovine/Cow Infectious Bovine Rhinotraceitis (IBR) gB Protein IgG ELISA kit, 96 tests

710-150-FBG Human Anti-Fetal Bovine/Calf Serum (FBS /FCS) IgG ELISA Kit, 96 tests, Quantitative

AE-310810-1 Bovine Anti-Pasteurella multocida IgG ELISA Kit, 96 tests

80653 Mouse monoclonal Anti-Bovine IgG1/2, ascites

RV-400610-1 Recombivirus Bovine/Cow Anti-Foot and mouth disease virus VP-1 (FMDV-VP1, Serotypes SAT1+2+3, Combo) IgG ELISA Kit, 96 tests

RV-400620-1 Recombivirus Bovine/Cow Anti-Foot and mouth disease virus FMDV (all serotypes O/A/A1/SAT1-3) 3ABC IgG ELISA Kit, 96 tests

IBRGB11-S Recombinant Bovine/Cow Infectious Bovine Rhinotraceitis (IBR) gB antiserum

IBRGB11-C Recombinant Bovine/Cow Infectious Bovine Rhinotraceitis (IBR) gB western blot control

IBRGB15-R-10 Recombinant Bovine/Cow Infectious Bovine Rhinotraceitis (IBR) gB recombinant protein

BVDE15-R-10 Recombinant (E.coli) Bovine Viral Diarrhea Virus 1 Envelope glycoprotein 2 (BVDV1-E2, his tag) purified

RV-500100-1 Recombivirus Bovine Viral Diarrhea Virus 1+2+3 (BVDV1+3) E2 Protein IgG ELISA kit, 96 tests (Not available in USA)

IBRGB11-S-antiserum 151209AC