ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Bovine Adenosine Deaminaser (ADA) Antibodies and controls

Cat # ADA11-S	Rabbit Anti-bovine ADA antiserum (IgG), unlabeled	**SIZE**: 100 ul
Cat # ADA11-BTN	Rabbit Anti-bovine ADA IgG-biotin conjuagte	**SIZE**: 100 ul
Cat # ADA11-HRP	Rabbit Anti-bovine ADA IgG-HRP Conjugate	**SIZE**: 100 ul
Cat # ADA11-C	Bovine ADA protein control for Western blot	**SIZE**: 100 ul

Adenosine deaminase (ADA; EC 3.5.4.4, human 393 aa; mol wt 32-33 kda, pI=4.85) catayzes deaminaiton of adenosine to inosine. ADA is found primarily in cytosol. It has also been located at the cell mmbrane and implicated in the availability of adenosine. It is ubiquitous in mammalian tissue, and deficiency in adenosine deaminase has been associated with severe combined immunodeficiency disease. The enzyme has been tested as a target for gene therapy treatments of this disease.

There is a common allele, ADA2, also known as the ADA 2 allozyme. It is associated with the reduced metabolism of adenosine to inosine. It specifically enhances deep sleep and slow-wave activity (SWA) during sleep. Defects in ADA are a cause of autosomal recessive severe combined immuno-deficiency (SCID, a congenital disorder characterized by impairment of both humoral and cell-mediated immunity, leukopenia, and low or absent antibody levels. Onset is during infancy. Less often, immune dysfunction develops later in childhood (delayed) and in a few cases ADA deficiency has been diagnosed in chronically ill teenagers and adults (late or adult onset). Population and newborn screening programs have also identified several healthy individuals with normal immunity, mainly in African descent, who have partial ADA deficiency. ADA deficiency accounts for about one-half of cases of autosomal recessive SCID. In hereditary hemolytic anemia, ADA in erythrocytes increases 50-70 times.

Source of Antigen, and Antibodies

Antigen	Purified bovine/calf spleen adenosine deaminase
Ab Host/type	Rabbit, Polyclonal antiserum fractionated IgG (#ADA11-S) supplied in PBS, pH 7.4 at 5 mg/ml
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control

Cat# ADA11-BTN, Biotin-conjugate

Purified anti-rabbit IgG antibody was coupled to Biotin using Biotinamidocaproate N-Hydroxysuccinimide Ester (BAC) at F/P ratio ~10-20:1. The antibody (1 mg/ml) is supplied in PBS, pH 7.4, 0.2% BSA and 0.05% azide in either **lyophilized** (100 ul) or **liquid** form (0.1 ml). Reconstitute powder in PBS in 0.1 ml to prepare 1 mg/ml solution. Store at -20oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:5,000-1:30,000 ELISA, 1:2K-1:10K for western.

Cat# ADA11-HRP, 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% prolcin-300 as preservative in either **lyophilized** (0.1 ml) or **liquid** form (0.5-1 mg/ml). Reconstitute powder in PBS in 100 ul. Store at 4oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:1,000-1:10,000 ELISA, 1:1K-1:5K for western, and 1:200-1:1000 (IHC).

Partially purified bovine/calf intestinal adenosine deaminase (# ADA11-C protein for Western blot +ve control (**Cat # ADA11-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **ADA**11C for good visibility with antibody Cat # **ADA11**-S. 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. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **ADA11**-C solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. This preparation is intended for qualitative purpose and not to serve as standard of known concentration. Do not freeze, thaw, or hear repeatedly

Recommended Usage

Western Blotting

We recommended initial testing at 1K-5K using Chemiluminescence technique. ADA is ~32-35 kda.

ELISA (1:10-50K; using 1 ug/ml coated protein).

Histochemistry & Immunofluorescence: not tested. We recommend an intial dilutuion 1:100 using 4% paraformaldehyde fixed tissues.

Specificity & Cross-reactivity

Anti-bovine/calf ADA crossreact with human, mouse and rat. Antibody crossreactivity with various species ADA remains to be established.

General References: Daddona PE (1984) JBC 259, 12101-12106; Valerio D (1985) EMBO J 4, 437-443; Wiginton DA (1986) Biochem. 25, 8234-8244; Lane RD et al (1993) J. Comp. Neurol. 333, 210-222; Pfrogner, N. (1967) Arch. Biochem. Biophys., **119(1)**, 147-154 (1967

*This product is for In vitro research use only.

Antibodies for A1, A2a, A2b, A3 are available.

ADA11-S, ADA11-BTN, ADA11-HRP 70515A

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