Chemiluminescent Substrate Solution

(AE Marker)

Cat. No. ABK-001 Size 1L*2

Description (Background)

The chemiluminescent substrate solution is a simple triggering reagent for acridinium ester (AE) fast light emission. Acridinium ester is the most commonly used for protein labeling and widely used in automated instruments because of its high sensitivity with detection limits in the attomole range. This product is suitable for acridinium ester labels on chemiluminescence technology, it is provided in two liquid buffer of Trigger A (Oxidant solution) and Trigger B (Enhancer solution) in each kit. When used, mix Trigger A and Trigger B in equal volume by 1:1, and light emission from acridinium esters is quite rapid and is essentially complete in <5s.

Specifications

Items	Details
Detection Method	Chemiluminescent
Product Type	Chemiluminescent substrate for acridinium ester labels emission
Contents	Trigger A (Oxidant solution) and Trigger B (Enhancer solution)
Quantity	1L Trigger A and 1L Trigger B in each kit
Appearance	Clear solution
Storage temperature	Store at room temperature for 12 months. Do not freeze. Product is shipped at ambient temperature.
Note	For research use only.

Applications

The chemiluminescent substrate solution is used to trigger acridinium ester labels to give a quite rapid light emission in chemiluminescence technology.

Attention (Important Product Information)

1. The chemiluminescent substrate solution is highly sensitive. Optimization of the antigen, antibody and acridinium ester conjugate concentrations may be required.
2. To decrease background signal, choosing a suitable bead is very important. Based on your beads, the reasonable experimental conditions should be figure out.
3. To limit nonspecific signal due to unsuitable reagent solutions, please choose an appropriate buffer solution for the experiment.
4. To reduce cross-contamination between positive samples and negative samples, please add samples in the correct way and sequence.
5. If the signal value is not available, check whether the buffer and reagent are expired. Do not use an expired buffer and reagent. The components of different batch should not be mixed used because it may lead to incorrect results.

Procedure for assay

1. Prepare materials and tools for your experiment, such as magnetic beads, protein or antibodies, buffer, Magnetic Separator and so on.
2. Prepare coupled magnetic beads with target proteins, and prepare acridinium ester labels according to correct experimental procedures.
3. Get your Chemiluminescence Immunoassay System ready and set up the running program. Confirm equipment readiness. Each instrument is programmed differently, make the correct program settings according to your own equipment design and experimental requirements.
4. Dilute the coupled beads and acridinium ester (AE)-Labels to a reasonable experimental concentration with Assay Buffer, and add to each test.
5. Dilute the test sample with the Assay Buffer to a series of concentrations or to a certain dilution ratio. Then add the series of concentration samples to the tests in the system.
6. Prepare the triggering Working Solution, mix equal parts of the Trigger A (Oxidant solution) and Trigger B (Enhancer solution).

   Note: Exposure to the sun or any other intense light can harm the Working Solution For best results, keep the Working Solution in an amber bottle and avoid prolonged exposure to any intense light Short-term exposure to typical laboratory lighting will not harm the Working Solution.
7. Check your program, samples, beads, reagents, buffer and others details, make sure there are no problems and start the program.
8. Add an appropriate volume of Working Solution to each test, such as add 100μL to each test.
9. Measure the relative light units (RLU, ~430nm) on your equipment, due to equipment differences, the final read value of relative light units (RLU) may be different, the operator should be familiar with their own equipment program Settings.

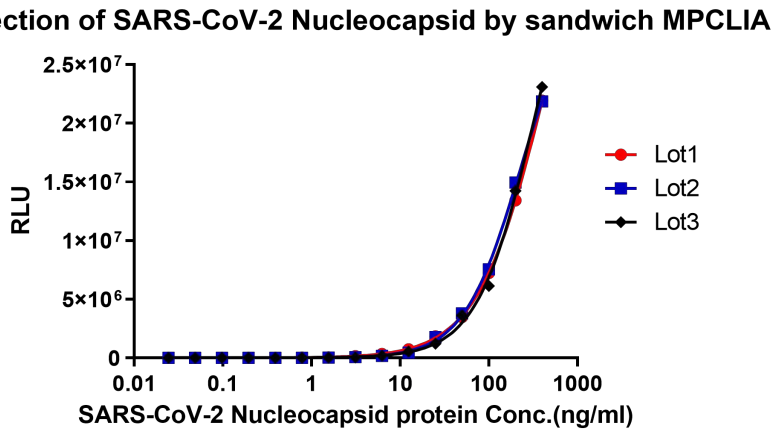
Shipping and Storage

The product is stable for up to 1 year from the date of manufacture at room temperature. Do not freeze.
The product is shipped at room temperature. Upon receipt, please store the buffer at room temperature away from light. Do not use reagents past their expiration date.

Figures

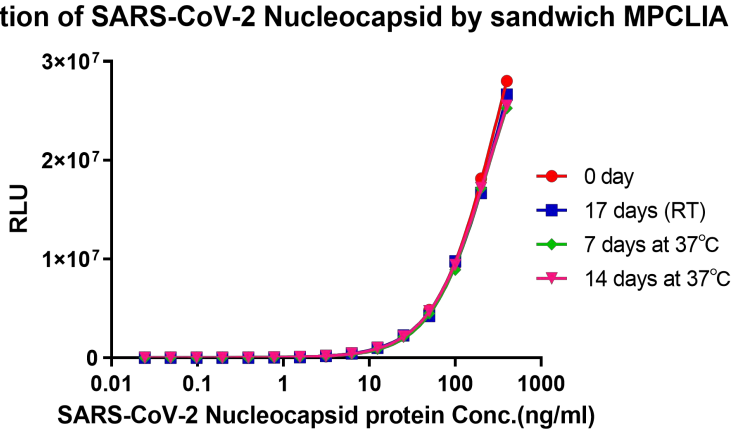
Detection Method: When used the Chemiluminescent Substrate Solution (AE Marker) (Cat. No. ABK-001) in a sandwich MPCLIA Assay for detection of SARS-CoV-2, The Biotinylated Anti-SARS-CoV-2 Nucleocapsid Antibody, Mouse IgG1 (Cat. No. NUN-BM266) coupled Streptavidin-Magnetic Beads (used for MPCLIA) (Cat. No. MPC-A006) was incubated with Acridinium ester-Labeled Anti-SARS-CoV-2 Nucleocapsid Antibody, Chimeric mAb, Human IgG1 (AM224) (Cat. No. NUN-M224) and treated with SARS-CoV-2 Nucleocapsid protein, His Tag (Cat. No. NUN-C5227) at increasing concentration, detection was performed using with sensitivity of 97.7 pg/mL in Magnetism particulate chemiluminescence immunoassay (MPCLIA) (KEYSMILE, SMART 6500S) (QC tested).

Batch consistency of ABK-001



The Product ABK-001 is high batch-to-batch consistency.

Stability of ABK-001



The Product ABK-001 is high stability. The accelerated stability of the Chemiluminescent Substrate (ABK-001) within 14 days at 37℃ with no more than 5% performance decrease.

Frequently asked questions (FAQs)

1. At what wavelength is the chemiluminescence substrate measured?
   The light emission wavelength is measured at 430 nm.
2. Can I dilute the chemiluminescence substrate working reagent if my signal is too intense?
   We do not recommend diluting the working reagent. It is better to dilute or otherwise optimize the antigen, antibody and acridinium ester conjugate concentrations or use appropriate buffer.
3. Have you tested the chemiluminescence substrate with magnetic beads application in ELISA?
   We have not tested the chemiluminescence substrate with magnetic beads application in ELISA, we just tested it in MPCLIA Assay.
4. How to judge whether the background and sample signal values are reasonable?
   Due to the difference of different chemiluminescence instruments、Beads、samples、assay Buffer and so on, the background signal and final read value of relative light units (RLU) may be different, the operator should be familiar with their own experiment and equipment program Settings, It is recommended that laboratories establish their own control standards, and judge the rationality of background signal and sample test signal

value according to its own quality control standard.