Adenosine Deaminase Activity Assay kit

Adenosine deaminase (also known as adenosine aminohydrolase, or ADA, EC 3.5.4.4) is an enzyme involved in purine metabolism, which catalyzes the irreversible deamination of adenosine and deoxyadenosine to inosine and deoxyinosine, respectively. This enzyme exists in a variety of microorganisms, plants, invertebrates, vertebrates and mammals. Some mutations in the adenosine deaminase gene can cause it not to be expressed. The resulting defects are one of the causes of severe combined immunodeficiency (SCID), especially accompanied by autosomal recessive inheritance. Insufficient ADA levels are also associated with lung inflammation, thymic cell death, and T cell receptor signaling defects. On the contrary, the gene mutation that causes the enzyme to overexpress is one of the causes of hemolytic anemia. The substrate adenosine is hydrolyzed to inosine (also known as hypoxanthine nucleoside) under the action of adenosine deaminase (ADA). Inosine is hydrolyzed under the catalysis of purine nucleoside phosphorylase (PNP) to produce hypoxanthine and ribose phosphate. Hypoxanthine produces hydrogen peroxide under the action of xanthine oxidase (XOD). Hydrogen peroxide produces purplish red substance under the action of peroxidase (POD), 4-aminoterpyline and color source. It has the maximum absorption at 550 nm. The rate of purplish red substance production per unit time can be obtained by detecting the rate of purplish red substance production per unit time.

Catalog No.	250632
Size	50 Assays / 100 Assays
Product Category	Colorimetric Assay
Detection Method	Spectrophotometry / Micro-Plate Reader
Storage/Stability	2-8°C/6 months
Shipping	Gel Packs