Datasheet for ABIN1440237

# Adipsin ELISA Kit

1 Image

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## Overview

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| Quantity: | 96 tests |
| Target: | Adipsin (CFD) |
| Reactivity: | Human |
| Method Type: | Sandwich ELISA |
| Minimum Detection Limit: | ~ 1.8 ng/mL |
| Application: | ELISA |

## Product Details

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| Purpose: | The AssayMax Human Complement Factor D (FD) ELISA kit is designed for detection of human FD in plasma, serum, saliva, milk, and cell culture samples. This assay employs a quantitative sandwich enzyme immunoassay technique that measures FD in less than 4 hours. A polyclonal antibody specific for FD has been pre-coated onto a 96-well microplate with removable strips. Human FD in standards and samples is sandwiched by the immobilized antibody and the biotinylated polyclonal antibody specific for human FD, which is recognized by a streptavidin-peroxidase conjugate. All unbound material is then washed away and a peroxidase enzyme substrate is added. The color development is stopped and the intensity of the color is measured. |
| Brand: | AssayMax |
| Sample Type: | Serum, Milk, Saliva, Plasma, Cell Culture Supernatant |
| Analytical Method: | Quantitative |
| Detection Method: | Colorimetric |

## Product Details

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| Cross-Reactivity (Details): | Cross-Reactivity: Monkey 20%,<br>10% FBS in culture media will not affect the assay. |
| Characteristics: | Standard Added Value: 7 - 70 ng/mL |
| Components: | Complement Factor D Microplate: A 96-well polystyrene microplate (12 strips of 8 wells) coated with a polyclonal antibody against human FD.<br>Sealing Tapes: Each kit contains 3 precut, pressure sensitive sealing tapes that can be cut to fit the format of the individual assay.<br>Complement Factor D Standard: Human FD in a buffered protein base (480 ng, lyophilized).<br>Biotinylated Complement Factor D Antibody (50x): A 50-fold concentrated biotinylated polyclonal antibody against human FD (140 µL).<br>EIA Diluent Concentrate (10x): A 10-fold concentrated buffered protein base (30 mL).<br>Wash Buffer Concentrate (20x): A 20-fold concentrated buffered surfactant (30 mL, 2 bottles).<br>Streptavidin-Peroxidase Conjugate (SP Conjugate): A 100-fold concentrate (80 µL).<br>Chromogen Substrate: A ready-to-use stabilized peroxidase chromogen substrate tetramethylbenzidine (8 mL).<br>Stop Solution: A 0.5 N hydrochloric acid to stop the chromogen substrate reaction (12 mL). |
| Material not included: | Microplate reader capable of measuring absorbance at 450 nm.<br>Pipettes (1-20 µL, 20-200 µL, 200-1000 µL and multiple channel).<br>Deionized or distilled reagent grade water. |

## Target Details

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| Target: | Adipsin (CFD) |
| Alternative Name: | Complement Factor D (CFD Products) |
| Background: | Complement Factor D (FD), also known as adipsin, is a serine protease secreted by adipocytes into the bloodstream and a component of the alternative complement pathway. It is a 24 kDa single chain glycoprotein with 222 amino acids and has a high level of expression in fat. Human FD cleaves factor B bound to C3b, generating the alternative pathway C3 convertase C3bBb and releasing the Ba fragment. Human FD plays a major role in humoral suppression of infectious agents. The deficiency of FD increases susceptibility to infections and their recurrence. |
| Pathways: | Complement System |

## Application Details

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| Sample Volume: | 50 µL |
| Assay Time: | < 4 h |
| Plate: | Pre-coated |
| Protocol: | Add 50 µL of standard/samples per well. Incubate 2 hours. Wash, then add 50 µL of biotinylated antibody per well. Incubate 1 hour. Wash, then add 50 µL of SP per well. Incubate 30 minutes. Wash, then add 50 µL of Chromogen Substrate per well. Incubate 20 minutes. Add 50 µL of Stop Solution per well. Read at 450 nm immediately. |
| Reagent Preparation: | Freshly dilute all reagents and bring all reagents to room temperature before use.<br>EIA Diluent Concentrate (10x): If crystals have formed in the concentrate, mix gently until the crystals have completely dissolved. Dilute the EIA Diluent 1:10 with reagent grade water. Store for up to 1 month at 2-8°C.<br>Standard Curve: Reconstitute the 480 ng of Complement Factor D Standard with 2 mL of EIA Diluent to generate a stock solution of 240 ng/mL. Allow the standard to sit for 10 minutes with gentle agitation prior to making dilutions. Prepare duplicate or triplicate standard points by serially diluting the stock solution (240 ng/mL) 1:2 with equal volume of EIA Diluent to produce 120, 60, 30, 15, 7.5, 3.75, and 1.875 ng/mL. EIA Diluent serves as the zero standard (0 ng/mL). Any remaining solution should be frozen at -20°C and used within 30 days.<br>Biotinylated Complement Factor D Antibody (50x): Spin down the antibody briefly and dilute the desired amount of the antibody 1:50 with EIA Diluent. Any remaining solution should be frozen at -20°C.<br>Wash Buffer Concentrate (20x): If crystals have formed in the concentrate, mix gently until the crystals have completely dissolved. Dilute the Wash Buffer Concentrate 1:20 with reagent grade water.<br>SP Conjugate (100x): Spin down the SP Conjugate briefly and dilute the desired amount of the conjugate 1:100 with EIA Diluent. Any remaining solution should be frozen at -20°C. |
| Sample Preparation: | Plasma: Collect plasma using one-tenth volume of 0.1 M sodium citrate as an anticoagulant. Centrifuge samples at 3000 x g for 10 minutes and use supernatants. Dilute samples 1:100 with EIA Diluent and assay. The undiluted samples can be stored at -20°C or below for up to 90 days. Avoid repeated freeze-thaw cycles. (EDTA or Heparin can also be used as an anticoagulant.)<br>Serum: Samples should be collected into a serum separator tube. After clot formation, centrifuge samples at 3000 x g for 10 minutes. Remove serum. Dilute samples 1:100 into EIA Diluent and assay. The undiluted samples can be stored at -20°C or below for up to 90 days. Avoid repeated freeze-thaw cycles. |

## Application Details

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| | Cell Culture Supernatants: Collect cell culture media and centrifuge at 3000 x g for 10 minutes at 4°C to remove debris. The samples can be stored at -20°C or below. Avoid repeated freeze-thaw cycles.<br>Saliva: Collect saliva using sample tube. Centrifuge samples at 800 x g for 10 minutes and assay. The undiluted samples can be stored at -20°C or below for up to 3 months. Avoid repeated freeze-thaw cycles.<br>Milk: Collect milk using sample tube. Centrifuge samples at 800 x g for 10 minutes. Dilute milk samples 1:2 into EIA Diluent and assay. The undiluted samples can be stored at -20°C or below for up to 3 months. Avoid repeated freeze-thaw cycles. |
| Assay Procedure: | Prepare all reagents, working standards and samples as instructed.<br>Remove excess microplate strips from the plate frame and return them immediately to the foil pouch with desiccants inside. Reseal the pouch securely to minimize exposure to water vapor and store in a vacuum desiccator.<br>Add 50 µL of standard or sample per well. Cover wells with a sealing tape and incubate for 2 hours. Start the timer after the last sample addition.<br>Wash five times with 200 µL of Wash Buffer manually. Invert the plate each time and decant the contents, hit 4-5 times on absorbent material to completely remove the liquid. If using a machine, wash six times with 300 µL of Wash Buffer and then invert the plate, decanting the contents, hit 4-5 times on absorbent material to completely remove the liquid.<br>Add 50 µL of Biotinylated Complement Factor D Antibody to each well and incubate for 1 hour.<br>Wash the microplate as described above.<br>Add 50 µL of Streptavidin-Peroxidase Conjugate per well and incubate for 30 minutes. Turn on the microplate reader and set up the program in advance.<br>Wash the microplate as described above.<br>Add 50 µL of Chromogen Substrate per well and incubate for approximately 20 minutes or till the optimal blue color density develop. Gently tap the plate to ensure thorough mixing and break the bubbles in the well with pipette tip.<br>Add 50 µL of Stop Solution to each well. The color will change from blue to yellow.<br>Read the absorbance on a microplate reader at a wavelength of 450 nm immediately. If wavelength correction is available, subtract readings at 570 nm from those at 450 nm to correct optical imperfections. Otherwise, read the plate at 450 nm only. Please note that some unstable black particles may be generated at high concentration points after stopping the reaction for about 10 minutes, which will reduce the readings. |
| Calculation of Results: | Calculate the mean value of the duplicate or triplicate readings for each standard and sample.<br>To generate a standard curve, plot the graph using the standard concentrations on the x-axis |

## Application Details

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| | and the corresponding mean 450 nm absorbance on the y-axis. The best-fit line can be determined by regression analysis using log-log or four-parameter logistic curve-fit.<br>Determine the unknown sample concentration from the Standard Curve and multiply the value by the dilution factor. |
| Assay Precision: | Intra-assay and inter-assay coefficients of variation were 4.8 % and 7.1 % respectively. |
| Restrictions: | For Research Use only |

## Handling

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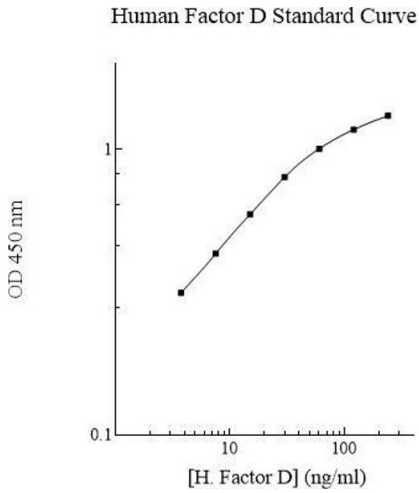
| Handling Advice: | Prepare all reagents (working diluent buffer, wash buffer, standards, biotinylated antibody, and SP conjugate) as instructed, prior to running the assay.<br>Prepare all samples prior to running the assay. The dilution factors for the samples are suggested in this protocol. However, the user should determine the optimal dilution factor.<br>Spin down the SP conjugate vial and the biotinylated antibody vial before opening and using contents.<br>The kit should not be used beyond the expiration date.<br>The Stop Solution is an acidic solution. |
| Storage: | 4 °C/-20 °C |
| Storage Comment: | Store components of the kit at 2-8°C or -20°C upon arrival up to the expiration date.<br>Store SP Conjugate and biotinylated antibody at -20°C.<br>Store Microplate, Diluent Concentrate (10x), Wash Buffer, Stop Solution, and Chromogen Substrate at 2-8°C.<br>Unused microplate wells may be returned to the foil pouch with the desiccant packs and resealed. May be stored for up to 1 month in a vacuum desiccator.<br>Diluent (1x) may be stored for up to 1 month at 2-8°C.<br>Store standard at 2-8°C before reconstituting with diluent and at -20°C after reconstituting with diluent. |




## ELISA

**Image 1.**