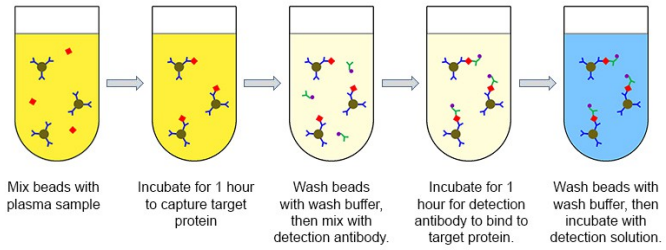
MagVigen™ - Human CEA On-Bead ELISA Kit
Cat # KE7104

Product Description

The MagVigen™ - Human CEA On-Bead ELISA Kit is a highly sensitive assay that enables the detection and quantification of human CEA at low concentrations.



Capture antibodies have been immobilized on paramagnetic nanoparticles, which have been specially formulated to disperse rapidly and evenly in solution. Due to the superior kinetics of the reactive surface being evenly distributed throughout a solution, the MagVigen Assay allows for a more efficient workflow and superior performance compared to a standard ELISA.

Product Contents

- MagVigen™ - Anti-CEA nanoparticles are provided in phosphate buffered saline (PBS), pH 7.4 with a small quantity of Tween-20 (0.1%). Each vial contains 300 uL of solution with a particle concentration of 2 mg/ml, which is enough for approximately 100 samples.
- Washing Buffer (10X)
- Sample Diluent Solution
- Detection Antibody Diluent Solution
- Detection Antibody (100x)
- Detection Substrate A
- Detection Substrate B
- CEA Calibrators.

All materials should be stored at 4°C up to 6 months.

Protocol

This protocol provides general guidance for the on-bead ELISA assays. Please adjust the amount of reagents for specific applications if needed.

1. Dilute 10X Washing Buffer with PBS to make 1X Washing Buffer.
2. Gently vortex or pipette the MagVigen™ - Anti-CEA nanoparticles in the vial before use.
3. For every sample, mix 3 uL of MagVigen™ - Anti-CEA nanoparticles with 97 uL of Diluent Solution.
4. Vortex the nanoparticle and diluent solution thoroughly, pipet 100 uL of this mixture into each well of a 96-well plate. Round-bottom plates are ideal, but the assay will work with conical and flat-bottom plates as well.
5. Add 100 uL of plasma sample or Calibrator into each well. Pipet mixture up and down to mix the solutions and disperse the beads.
6. Incubate mixture for 1 hour on a shaker.
7. Magnetize beads by placing the 96-well plate on an Nvigen 96-Well Magnetic Plate (Cat # A20006) for 60 seconds, until the beads form a small pellet at the base of each well. Remove the solution by pipet, avoiding the pellet with the pipet tips. Alternatively if not working with potentially biohazardous samples, it is possible to hold the two plates together to keep the beads magnetized, invert both the sample-containing plate and the magnetic plate together to discard the solution, and tap the plates on a paper towel.
8. Remove the 96-well plate from the Nvigen Magnetic Plate and add 250 uL of Washing Buffer. The beads should gently disperse on their own.
9. Repeat steps 7 and 8 an additional 2 times, for a total of 3 washes.
10. For every sample, make 100 uL of a 1:100 dilution of Detection Antibody in Detection Antibody Diluent Solution.
11. Add 100 uL of 1:100 diluted Detection Antibody solution into each well. Pipet mixture up and down to mix the solutions and disperse the beads.
12. Incubate mixture for 1 hour on a shaker.
13. For each sample, aliquot out 50 uL each of Detection Substrate A and Detection Substrate B. Allow each to come to room temperature 15 minutes before the prior incubation is finished.
14. Magnetize and wash the beads for a total of 3 washes as done in steps 7 and 8.
15. Mix the prepared Detection Substrates A and B immediately before use. Add 100 uL of the Detection Substrate mixture into each well, pipet up and down to mix.
16. Incubate the Detection Substrate with the beads for 15 minutes, then magnetize the beads using the Nvigen 96-well Magnetic Plate for 1 minute. Remove the solution by pipet, avoiding the pellet with the pipet tips. Transfer the supernatant to a new, clear 96-well plate.
17. Read the plate in a standard ELISA plate reader at either 430 or 670 nM.