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Enzyme linked immunosorbent assay for investigating the binding of Streptococcal Protein-G (SpG) to diverse immunoglobulins

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1 Works for me dx.doi.org/10.17504/protocols.io.bjphkmj6

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ABSTRACT

This SpL ELISA can be used to detect specific antibodies in various animal species including human, mouse, rat, dog, rabbit, chicken, monkey, pig and hamster [1].

1. De Chateau M, Nilson BH, Erntell M, Myhre E, Magnusson CG, Akerstrom B et al. On the interaction between protein L and immunoglobulins of various mammalian species. Scand J Immunol 1993; 37: 399–405

DOI

dx.doi.org/10.17504/protocols.io.bjphkmj6

PROTOCOL CITATION

Angel A Justiz-Vaillant 2020. Enzyme linked immunosorbent assay for investigating the binding of Streptococcal Protein-G (SpG) to diverse immunoglobulins. **protocols.io** https://dx.doi.org/10.17504/protocols.io.bjphkmj6

CREATED

Aug 13, 2020

LAST MODIFIED

Aug 13, 2020

PROTOCOL INTEGER ID

40393

1 This ELISA is used to study the interaction of Streptococcal protein G with different immunoglobulin preparations.

2 The 96 well microtitre plate is coated overnight at 4°C with 1 µl/mg per well of Streptococcal protein-G (SpG) in carbonate-bicarbonate buffer pH 9.6.

3 Then plate is treated with bovine serum albumin solution and washed 4X with PBS-Tween.

4 50 µl of animal serum (1 mg/ml) is added and incubated for 1h at room temperature and the microplate is rewashed 4X with PBS-Tween.

5 Then 50 µl of peroxidase-labeled SpG conjugate diluted 1:5000 in PBS-non-fat milk is added to each well and incubated for 1h at RT. The plate is washed 4X with PBS-Tween.

6 50 µl of 4 mg/ml o-phenylenediamine solution (OPD) is added and the plate is incubated 15 minutes at RT in the dark.

7 The reaction is stopped with 50 µl of 3M H2SO4 solution.

8 The plate is visually assessed for the development of colour and read in a microplate reader at 492 nm.

9 A cut-off point should be calculated as the mean of the optical density of negative controls x 3. The higher the OD value the higher the affinity of SpG to immunoglobulin G.

Citation: Angel A Justiz-Vaillant (08/13/2020). Enzyme linked immunosorbent assay for investigating the binding of Streptococcal Protein-G (SpG) to diverseÃÂ immunoglobulins. https://dx.doi.org/10.17504/protocols.io.bjphkmj6