

# Hib IgG

## VaccZyme™ EIA kit for the measurement of specific *Haemophilus influenzae* type b (Hib) IgG

IgG antibodies to *Haemophilus influenzae* type b (Hib) capsular polysaccharide are produced by the immune system following infection with the bacteria or in response to immunisation. The measurement of specific antibodies to Hib is helpful in the assessment of immune status, the investigation of immunodeficiency and during the manufacture of therapeutic immunoglobulin.

### SPECIFIC

Microplates coated with the Hib capsular polysaccharide antigen conjugated to human serum albumin  
Measurement of specific Hib IgG antibodies  
Evaluation of the specific response to Hib immunisation

### HIGH PERFORMANCE

Assay measuring range of 0.11 to 9.0 mg/L  
Calibrated against reference standard FDA 1983  
Optional assessment of relative antibody avidity

### SCREENING ASSAY

Ready to use reagents provided in kit format  
Accurate results within 2 hours  
Standard Enzyme Immunoassay (EIA) format for simple automation

**Binding Site VaccZyme™ assays are specific, precise and optimised to measure the specific IgG response to the Hib conjugated vaccine.**



# Hib IgG kit

The VaccZyme™ Hib IgG EIA kit is designed to measure the specific antibody response to immunisation with the protein-conjugated Hib vaccine.

## IMMUNE STATUS

*Haemophilus influenzae* type b (Hib) is an encapsulated bacterium which can cause a range of conditions including meningitis, septicaemia and pneumonia. Infections caused by Hib were a major cause of bacterial meningitis in children under the age of five until vaccinations with the protein-conjugated Hib vaccine were introduced in recent years. The immune system in young children under the age of 2 years is too immature to respond well to carbohydrate antigens such as the polysaccharide capsule of Hib. However, by conjugating Hib to a protein this immaturity can be overcome, resulting in the production of antibodies to the polysaccharide component of the vaccine<sup>1</sup>.

Specific antibody levels of > 0.15 mg/L have been reported to give short term protection from Hib infection. However it is widely accepted that a level of > 1.0 mg/L of specific antibody is required for long term protection<sup>2,3</sup>. The demonstration of a significant rise in titre of specific antibody between pre- and post-vaccination samples has been shown to be useful in the investigation of suspected immunodeficiency<sup>4,5,6</sup>.

## PRODUCT SPECIFICATIONS (MK016)

|                      |  |
|----------------------|--|
| Measuring range      | 0.11 - 9.0 mg/L                                |
| Sample dilution      | 1:100  |
| Tests per kit        | 1 x 96 well plate<br>(12 x 8 microwell strips) |
| Assay time           | < 2 hours                                      |
| Sample incubation    | 30 minutes                                     |
| Conjugate incubation | 30 minutes                                     |
| Substrate incubation | 30 minutes                                     |



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## ANTIBODY AVIDITY

Antibody avidity refers to the functional binding strength of an antibody and the target antigen and is therefore dependent on both the affinity of the binding and the number of epitopes involved. This can have important implications with regard to the full evaluation of an individual's immune response<sup>3</sup>, for example if the B memory cells of the individual have been fully primed following vaccination and whether this response will confer immunity.

The VaccZyme™ Hib IgG EIA Accessory Pack is designed to be used in conjunction with the standard VaccZyme™ Hib IgG EIA kit for the assessment of the relative **avidity** of specific Hib IgG antibodies.

An adaptation of the standard EIA protocol is used for this relative avidity assessment. Samples are run in duplicate, with and without a Test Buffer that contains an optimised concentration of a chemical chaotrope. This chaotrope acts on the bonds between the specific antibody in the sample and the antigen coated in the microwells. Antibodies with low avidity are removed by subsequent washing. The relative avidity is expressed as a Binding Index.

## REFERENCES

1. E.G. Davies. Impaired immunity in children. *Current Paediatrics* 2006; **16**: 16-28
2. P.H.Makela. Long-term persistence of immunity after immunisation with *Haemophilus influenzae* type b conjugate vaccine. *Vaccine* 2003; **22**: 287-292
3. A.E. Agbarakwe. Avidity of specific IgG antibodies elicited by immunisation against *Haemophilus influenzae* type b. *J Clin Pathol* 1995;**48**:206-209
4. E. De Vries. Patient-centred screening for primary immunodeficiency: a multi-stage diagnostic protocol designed for non-immunologists. *Clinical and Experimental Immunology* 2006; **145**: 204-214
5. ESID guidelines. [www.esid.org](http://www.esid.org)
6. R.H.Buckley. Primary immunodeficiency or not? Making the correct diagnosis. *Journal of Allergy and Clinical Immunology* 2006; **117**(4): 756-758

| DESCRIPTION                          | PACK     | CODE  |
|--------------------------------------|----------|-------|
| VaccZyme™ Hib IgG EIA kit            | 96 tests | MK016 |
| VaccZyme™ Hib IgG EIA Accessory Pack | 48 tests | MK116 |

Please contact us for information regarding FDA clearance of these kits in the USA.

[www.bindingsite.co.uk](http://www.bindingsite.co.uk)

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