

Description	Precipitating polyclonal sheep antisera to human IgG4, subclass specific	
Product code	ShAHu/IgG4	
Biological origin	Sheep	
Physical form	Delipidated, heat inactivated lyophilized stable whole serum	
Preservative	No preservative added, as it may interfere with the antibody activity. No foreign protein added.	
Immunogen	Purified homogenous IgG4 is isolated from human serum. Freund's complete adjuvant is used in the first step of the immunization procedure.	
Adsorption	Immunoaffinity adsorption with insolubilized highly purified myeloma proteins of the other subclass or other serum proteins as required.	
Identity & Specificity	The activity of the antiserum is directed to human IgG4 subclass. It does not react with any non-Ig protein in human serum, as tested by immunoelectrophoresis and double radial immunodiffusion.	
Cross-reactivity	Inter-species cross-reactivity is a normal feature of antibodies to immunoglobulins, since Ig of different species frequently share antigenic determinants. Cross-reactivity of this antiserum has not been tested in detail.	
Protein concentration	Total protein and IgG concentration in the antiserum are comparable to those of pooled sheep serum. No foreign proteins added.	
Antibody titre	The antigenic differences between subclasses are considerably less pronounced than those between classes or between light chain types. Subclass-specific determinants are only few in number and probably restricted in their structural exposure, which makes them relative weak immunogens. This explains why the titres of subclass-specific antisera are usually lower than those of class-specific antisera which react with many antigenic determinants commonly present on all molecules of the respective class.	
Intended use	<p>In precipitating techniques as immunoelectrophoresis and double radial immunodiffusion to identify and measure the concentration of IgG4 subclass in serum or other body fluids.</p> <p>Human IgG constitutes about 75% of the total Immunoglobulins in the serum of normal adults. It consists of four subclasses which are distinguished in isotypic heterogeneity of the gamma chains, and in physicochemical, biological and effector properties. The term "subclass" designates the high degree of homology in amino acid sequences and antigenic structure. In normal adult serum, the approximate percentage composition of IgG with respect to its subclasses is: IgG1: 65%, IgG2: 23%, IgG3: 8% and IgG4: 4%. All four subclasses appear in both isotypes of the light chain. Normal serum thus contains eight different molecular forms of IgG, the absolute and relative distribution being genetically controlled and resulting from individual responses to the antigenicity of the environment. Antigenic determinants carrying isotypic subclass specificity can be situated on any of the three structurally very similar sub-regions of the gamma chains, known as domains. In IgG, some antigenic determinants are shared by two or three subclasses, but not by all four. Consequently, antibodies to such determinants will not be strictly subclass-specific.</p> <p>For the identification of human IgG4 in cells and tissues by immunofluorescence or immunocytochemical peroxidase techniques, or in body fluids by ELISA and Western blotting type procedures, NORDIMMUNE monoclonal antibody reagents to the individual subclasses are available.</p>	
Directions for use	<p>Because of their characteristics and those of the subclass-specific antigenic determinants, the use of this antiserum requires special precautions. The specificity and reactivity depend largely on the conditions of the test system in which they are applied.</p> <p>The performance of NORDIC polyclonal subclass-specific antisera is guaranteed when they are used for the purposes described in RWP 5E/88, applying the special immunoprecipitation arrangement recommended for these purposes. In immunoelectrophoresis use 2 µl 1:8, 1:16 and 1:32 dilutions of pathological serum or equivalent against 60 µl antiserum. In double radial immunodiffusion use a rosette arrangement with 10 µl antiserum in 3 mm diameter center well and 2 µl serum samples (neat and serially diluted) in 2 mm diameter peripheral wells. Nordic also makes available a human standard serum with assigned values of the subclasses of IgG (NOR-01).</p>	
Handling	The lyophilized antiserum is shipped at ambient temperature and may be stored at +4°C; prolonged storage at or below -20°C. It is reconstituted by adding 1 ml sterile distilled water. Repeated thawing and freezing should be avoided. If a slight precipitation occurs upon storage, this should be removed by centrifugation. It will not affect the performance of the product.	
Packing	Vials with 1 ml lyophilized antiserum.	
Storage / shelf life	Lyophilized at +4°C	at least 10 years
	reconstituted at or below -20°C	3-5 years
	reconstituted at +4°C	7 days
Caution	This antiserum should be handled by qualified persons only and appropriate precautions should be taken in its handling and disposal, and of all associated materials. For <i>in vitro</i> laboratory research purposes only.	

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