Description	**Precipitating polyclonal goat antiserum to human J chain**
Product code	GAHu/J
Biological origin	Goat
Physical form	Delipidated, heat inactivated, lyophilized, stable whole antiserum
Preservative	No preservative added.
Immunogen	Human J chain is a polypeptide folded within the polymeric structure of the immunoglobulin. J chain isolated form human polymeric IgA and IgM are identical by criteria of composition, peptide maps and antigenicity. Human J chain has been established as distinct from all other component chains of polymeric IgA and IgM. It has a unique primary structure. Antisera to light chains or heavy chains of human Immunoglobulins do not react with J chain. J chain is released from dimeric human myeloma IgA by sulphitolysis and purified by ion exchange chromatography in urea and gel filtration in guanidine. Its purity is tested in alkaline urea polyacrylamide gel electrophoresis, in immunodiffusion and immunoelectrophoresis, showing it to be free of IgA, heavy or light chain contaminants. Freund's complete adjuvant is used in the first step of the immunization procedure.
Adsorption	Immunoaffinity adsorbed using insolubilized antigens as required, to eliminate antibodies reacting with other serum proteins. The use of insolubilized adsorption antigens prevents the presence of excess adsorbent protein or immune complexes in the antiserum.
Identity & Specificity	The reactivity of the antiserum is restricted to J chain as tested in immunoelectrophoresis and radial immunodiffusion. The antiserum shows a single precipitation reaction with totally reduced and alkylated polyclonal and monoclonal polymeric IgA and IgM. No reaction is obtained with the intact polyclonal or monoclonal IgA, IgM and IgG. There is also no detectable reaction with normal human serum, normal human milk, purified Ig heavy and light chains and secretory component. However a single precipitin line can be obtained with human serum after two hours incubation with 9 M urea and 0.2 M mercaptoethanol at pH 8.6, and this shows a reaction of identity with the precipitin line obtained with the purified immunogen.
Cross-reactivity	Inter-species cross-reactivity is a normal feature of antibodies to serum proteins, since homologous proteins of different species frequently share antigenic determinants. Cross-reactivity of this antiserum has not been tested in detail.
Protein concentration	Total protein and IgG concentrations in the antiserum are comparable to those of pooled normal goat serum. No foreign proteins added.
Antibody titre	Precipitin titre 1:32 when tested in agar-block immunodiffusion titration against a 1% solution of purified J chain in PBS.
Intended use	In precipitating techniques as immunoelectrophoresis and single and double radial immunodiffusion to identify the presence of free J chain in human serum or other body fluids and to determine its concentration. Since the J chain is folded within the polymeric structure of the immunoglobulin its epitopes are exposed only to a very limited degree. Although the antiserum may react with epitopes of the intact polymeric immunoglobulin, this will be normally not lead to a visible precipitation. When used in agar gel immunodiffusion, special consideration should be given to the small molecular size of the J chain, which results in a rapid diffusion into the gel layer. To prevent the development of an antigen excess during the second step of the immunoelectrophoresis, the antiserum should be applied immediately after the electrophoresis of the test sample. In double radial immunodiffusion (Ouchterlony) the antiserum should be applied first, followed by free J chain or reference preparation. Normal human serum can be used as a negative control.
Directions for use	In immunoelectrophoresis use 2 µl serum or equivalent against 120 µl antiserum. In double radial immunodiffusion use a rosette arrangement with 10 µl antiserum in 3 mm diameter centre well and 2 µl serum samples (neat and serially diluted) in 2 mm diameter peripheral wells.
Handling	The lyophilized antiserum is shipped at ambient temperature and may be stored at +4°C; prolonged storage at or below -20°C. Reconstitute the lyophilized antiserum by adding 0.5 ml sterile distilled water. Dilutions may be prepared by adding phosphate buffered saline (PBS, pH 7.2). 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 antiserum. Diluted antiserum should be stored at +4°C, not refrozen, and preferably used the same day.
Packing	Vial with 0.5 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 *in vitro* research purposes only.

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