ProductInformation

Monoclonal Anti-Human Kappa Light Chains
Clone: KP-53
Purified mouse immunoglobulin

Product Number **K2011**

Product Description

Monoclonal Anti-Human Kappa Light Chains (mouse IgG_1 isotype) is a product derived from hybridoma KP-53, created from a fusion between a mouse myeloma cell line (NS1) and splenocytes from a BALB/c mouse immunized with a purified human Bence Jones Kappa protein.

Monoclonal Anti Human Kappa Light Chains is specific for the kappa light chains. It does not react with human lambda light chains, using human IgG and IgA myeloma proteins containing the appropriate light chains and using Bence Jones proteins coated on microtiter plates in ELISA. It recognizes both the heavy chain-bound and the free (Bence Jones) human kappa light chain.

Monoclonal Anti Human Kappa Light Chains may be used for identification of human kappa light chains using various immunological techniques. It can be used in enzyme linked immunosorbent assay (ELISA), immunohistological applications in frozen or fixed tissues, RIA, precipitation assays, and immunofixation. The antibody was found to be useful for conjugation to biotin, FITC, enzymes and radioisotopes.

Monoclonal Immunoglobulins are made up of 2 heavy and 2 light polypeptide chains held together by non-covalent forces and usually by interchain-disulfide bridges. The various types of human (and other mammalian) immunoglobulins contain one of the two existing light chain types, kappa or lambda, in which multiple structural differences are reflected in antigenic variety, mainly in the N-terminal (variable) domain of the chains. In monoclonal disorders such as myeloma and macroglobulinemia an increase in the level of a single immunoglobulin class can be accompanied by disproportionate increase in either lambda or kappa light chains. Furthermore, in many cases of B-cell malignancy origin, there is an increasing production of light chains that are not combined with heavy chains and are circulating in the various body fluids (blood, CSF, tissues) and are secreted in enormous amounts as free molecules in the urine (Bence Jones paraproteins). Such pathological conditions may be undetectable by simple immunoglobulin quantification, because it may be present despite normal values for total immunoglobulin concentrations. Light chain typing, together with serum or urine electrophoresis is useful in diagnosis and analysis of immunoglobulin gammapathies and some inflammatory neurological diseases. Monoclonal antibodies which are specific for the various human light chains are useful tools for the diagnosis and analysis of chain disorders by applying additional technique such as ELISA, immunoblotting and immunohistology.

Reagents

The product is provided as (Protein A) purified antibody in 0.01M PBS pH 7.4 with 15 mM sodium azide (see MSDS)* as a preservative.

Antibody Concentration: 5.8 mg/ml

Precautions and Disclaimer

* Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability

For continuous use, store at 2-8°C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile

Working concentration is 1-5 µg/ml as determined by ELISA, using 5 µg/ml freshly prepared human Bence-Jones kappa light chains for coating.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working dilutions by titration test.

References

1. Phillips, D.J., et al, Immunol. Lett., **17**, 159-168 (1987).
2. Hamilton, R.G., et al, J. Immunoassay, **9**, 275-296 (1988).

3. Black, C.M., et al, J. Immunol. Meth., **106**, 71-81 (1988).
4. Whicher, J.T., et al, Ann. Clin. Biochem., **24**, 119-132 (1987).
5. Prozanski, W., In "Paraproteins in Disease: Investigation of plasma cell discrasias", Prozanski, W., and Keystone, E.C., Eds. Churchill Livingston, Edinburgh- New York, pp 54-92, (1986).

lpg 9/99