3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

MONOCLONAL ANTI-RAT KAPPA (κ) AND LAMBDA (λ) LIGHT CHAINS
Mouse Ascites Fluid
Clones RT-39 and RL-6

Product Number **R 8636**
Lot Number 053H4833

Product Description

Monoclonal Anti-Rat κ and λLight Chains (mouse IgG1 & IgG2a isotypes) is a mixture of ascites fluid derived the RT-39 and RL-6 hybridomas which were both produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with purified rat IgG. The isotypes were determined using Sigma ImmunoType™ Kit # (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Monoclonal Anti-Rat κ & λ Light Chains recognizes epitopes located on the κ & λ light chains of the various rat immunoglobulin classes and subclasses. The epitope recognized on the κ light chains is shared by both the 1a and 1b allotypes. The product detects light chains derived from normal serum or myeloma proteins. It localizes denatured-reduced molecules in immunoblotting. By indirect ELISA, weak cross-reaction is observed with guinea pig immunoglobulins but not with IgG from human, bovine, cat, chicken, dog, goat, horse, mouse, pig, rabbit, or sheep.The product is also applicable as a secondary antibody in immunohistochemistry.

Rat immunoglobulins have either κ or λ light chains.[1] Greater than 90% of normal rat immunoglobulins and myelomas contain κ light chains. Several different κ light chain haplotypes are found among the various strains of rat[2] and such genetic polymorphism results in the presence of distinct epitopes on homologous proteins. These polymorphic determinants are called allotypes. Two different κallotypes have been defined, 1a (also called RI-1a) and 1b (RI-1b), which differ in a large proportion (11 out of 107) of the amino acids in the constant region.

The rat has been extensively used as a research model in pharmacology, oncology and the study of the immunology of aging. Rat polyclonal and monoclonal antibodies have come into widespread use as primary antibodies.[3] Secondary antibodies to rat light chains (κ & λ) are particularly valuable as general anti-rat immunoglobulin reagents for the detection, quantitation, and purification of rat immunoglobulins of all classes. Polyclonal anti-rat antibodies are produced by xenogeneic immunization of rabbits, goats or sheep, resulting in antibodies that cross-react with immunoglobulins of other species unless extensively adsorbed. Monoclonal anti-rat immunoglobulins which are devoid of any binding capacity to human and many other species can therefore serve as an essential tool in many applications, especially when used as a secondary reagent in immunohistochemistry.

Reagents

The product is provided as ascites fluid with 0.1% sodium azide as a preservative.

Precautions and Disclaimer

Due to the sodium azide content a material safety sheet 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

Store at 0-5 °C.

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
Monoclonal Anti-Rat κ & λ Light Chains may be used for the localization of rat light chains and rat immunoglobulins of all classes using various immunochemical assays such as ELISA, immunoblot, dot blot and immunohistochemistry.

Titer: 1:1,000

The antibody titer was determined by indirect ELISA using 5 µg/ml freshly prepared rat myeloma proteins containing rat κ light chains, rat λ light chains and rat IgG coated on microtiter plates.

Note: Secondary antibodies against mouse immunoglobulins may cross-react with the rat protein coated on the microtiter plate unless properly adsorbed with rat immunoglobulins.

In order to obtain best results in different techniques and preparations, it is recommended that each individual user determine their optimum working dilutions by titration assay.

References

1. Bazin, H., et al., Eur. J. Immunol., **4**, 44 (1974).
2. Beckers, A., et al., Immunochemistry, **11**, 605 (1974).
3. Springer, T. A., et al., Hybridoma, **1**, 257 (1982).

JWM/DAA 8/2004