Product Data Sheet

Product Name: Rituximab (Anti-Human CD20 type I, Chimeric Antibody)
Cat. No.: GC34209

Chemical Properties

Cas. No.	174722-31-7		
SMILES	[Rituximab]		
Formula	$C_{6416}H_{9874}N_{1688}O_{1987}S_{44}$	M.Wt	144544.44
Solubility		Storage	Store at -80°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

Protocol

Cell experiment [1]:

Cell lines	Peripheral blood mononuclear cells from B-CLL patients
Preparation Method	7×104 cells/well were plated in quadruplicate in 96-well plates in the presence or absence of 0.3-1μg/ml fludarabine. After 24 h, human serum was added to a final 25% in the presence or absence of 10 μg/ml rituximab and the cells incubated for 4 h at 37°C.
Reaction Conditions	10 μg/ml for 4 hours

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

Applications	In CLL 4, rituximab and complement alone induced 34% cell death.

Animal experiment [2]:

Animal models	Male C57BL/6 mice, weighing 18-22 g,
Preparation Method	Each animal received a single injection of rituximab (10 mg/mL) by either IV (1 and 40 mg/kg; tail vein) or SC routes (1, 10 and 40 mg/kg; mid back or mid abdomen). The volume of injection was 4 mL/kg (80 μL for 20 g mouse), and the commercially available formulation (10 mg/mL) was diluted with sterile normal saline for low doses.
Dosage form	IV for 1, 40 mg/kg and SC for 1, 10, 40 mg/kg
Applications	The Subcutaneous (SC) absorption of rituximab in mice shows at both tested injection sites (back and abdomen), the extent of absorption was inversely related to the dose level, the absorption of rituximab from the abdomen was faster than at the back.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

References:

[1]: Di Gaetano, N. et al. Synergism between fludarabine and rituximab revealed in a follicular lymphoma cell line resistant to the, cytotoxic activity of either drug alone. Br. J. Haematology 114, 800-809 (2001).
[2]: Kagan L, Zhao J, Mager DE . Interspecies pharmacokinetic modeling of subcutaneous absorption of rituximab in mice and rats. Pharm Res 2014; 31: 3265-3273.

Background

Rituximab is a human/murine, chimeric anti-CD20 monoclonal antibody with established efficacy, and a favorable and well-defined safety profile in patients with various CD20-expressing lymphoid malignancies, including indolent and aggressive forms of B-cell non-Hodgkin lymphoma [1].

Intravenously administered rituximab was granted regulatory approval in 1997 by the US Food and Drug Administration and in 1998 by the European Medicines Agency for use in relapsed/refractory indolent non-Hodgkin lymphomas. Approvals for use in chronic lymphocytic leukemia followed in 2009 and 2010, respectively [1].

Rituximab binds with high affinity and specificity to the CD20 antigen, which is expressed on the vast majority of malignant B cells. The apparent affinity constant of rituximab for human CD20, as determined by Scatchard analysis using a human lymphoblastoid cell line, is approximately 5.2 nmol/L [2]. Rituximab provides significant, clinically meaningful benefits to patients with active rheumatoid arthritis also. In patients with active rheumatoid arthritis despite methotrexate treatment, a single course of two

infusions of rituximab, alone or in combination with either cyclophosphamide or continued methotrexate, provided significant improvement in disease symptoms at both weeks 24 and 48 [3].

References:

[1]. Salles G, Barrett M, FoÀ R, et al. Rituximab in B-cell hematologic malignancies: a review of 20 years of clinical experience. Adv Ther. 2017;34(10):2232-2273.
[2]. Reff ME, Carner K, Chambers KS, et al. Depletion of B cells in vivo by a chimeric mouse human monoclonal antibody to CD20. Blood. 1994;83:435-45.
[3]. Edwards JC, Szczepanski L, Szechinski J, et al. Efficacy of B-cell-targeted therapy with rituximab in patients with rheumatoid arthritis. N Engl J Med 2004;350:2572-2581