Product Data Sheet

Product Name: Immunoglobulin M heavy chain (IGHM) fragment [Homo sapiens]
Cat. No.: GP10116

Chemical Properties

Cas. No.			
Formula	$C_{82}H_{132}N_{24}O_{20}$	M.Wt	1774.07
Solubility	≥ 177.4mg/mL in DMSO	Storage	Store at -20°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			

Background

Immunoglobulin M heavy chain (IGHM) fragment [Homo sapiens] is a fragment (Gly-Val-Ala-Leu-His-Arg-Pro-Asp-Val-Tyr-Leu-Leu-Pro-Pro-Ala-Arg) on the the human immunoglobulin micro heavy chain.

Immunoglobulins (Ig) are the antigen recognition molecules of B cells. An Ig molecule is made up of 2 identical heavy chains and 2 identical light chains joined by disulfide bonds so that each heavy chain is linked to a light chain and the 2 heavy chains are linked together. Each Ig heavy chain has an N-terminal variable (V) region containing the antigen-binding site and a C-terminal constant (C) region, encoded by an individual C region gene, that determines the isotype of the antibody and provides effector or signaling functions.

The IGHM gene encodes the C region of the mu heavy chain, which defines the IgM isotype. Naive B cells express the transmembrane forms of IgM and IgD on their surface. During an antibody response, activated B cells can switch to the expression of individual downstream heavy chain C region genes by a process of somatic recombination known as isotype switching. In addition, secreted Ig forms that act as antibodies can be produced by alternative RNA processing of the heavy chain C region sequences.

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Although the membrane forms of all Ig isotypes are monomeric, secreted IgM forms pentamers, and occasionally hexamers, in plasma.

References:

1. Janeway CA, Jr et al. (2001). Immunobiology. (5th ed.). Garland Publishing. ISBN 0-8153-3642-X
2. Woof J, Burton D (2004). "Human antibody-Fc receptor interactions illuminated by crystal structures". Nat Rev Immunol 4 (2): 89–99.

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