ATAGENIX LABORATORIES

Catalog Number:ATMP00207HU

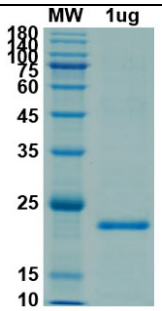
Recombinant Human MS4A1 protein ,N- His Tag

Product Details

Summary

English name	Recombinant Human MS4A1 protein ,N- His Tag
Purity	>90% as determined by SDS-PAGE
Endotoxin level	< 1.0 EU per μg of the protein as determined by the LAL method.
Construction	A DNA sequence encoding the human MS4A1(Glu213-Pro297) was fused with the N-terminal His Tag
Accession #	P11836
Host	Mammalian cells
Species	Homo sapiens (Human)
Predicted Molecular Mass	9.35kDa
Formulation	Supplied as solution form in PBS pH 7.5 or lyophilized from PBS pH 7.5.
Shipping	In general, proteins are provided as lyophilized powder/frozen liquid. They are shipped out with dry ice/blue ice unless customers require otherwise.
Stability &Storage	Use a manual defrost freezer and avoid repeated freeze thaw cycles. Store at 2 to 8 °C for one week . Store at -20 to -80 °C for twelve months from the date of receipt.
Reconstitution	Reconstitute in sterile water for a stock solution.A copy of datasheet will be provided with the products, please refer to it for details.

SDS-PAGE image



SDS-PAGE Image

Background

Background	CD20 is expressed on all stages of B cell development except the first and last; it is present from late pro-B cells through memory cells, but not on either early pro-B

cells or plasma blasts and plasma cells. It is found on B-cell lymphomas, hairy cell leukemia, B-cell chronic lymphocytic leukemia, and melanoma cancer stem cells. The protein has no known natural ligand and its function is to enable optimal B-cell immune response, specifically against T-independent antigens. It is suspected that it acts as a calcium channel in the cell membrane. CD20 / MS4A1 is the target of the monoclonal antibodies (mAb) rituximab, Ibritumomab tiuxetan, and tositumomab, which are all active agents in the treatment of all B cell lymphomas and leukemias. Defects in CD20 / MS4A1 are the cause of immunodeficiency common variable type 5 (CVID5); also called antibody deficiency due to CD20 defect. CVID5 is a primary immunodeficiency characterized by antibody deficiency, hypogammaglobulinemia, recurrent bacterial infections and an inability to mount an antibody response to antigen.

Alternative Names MS4A1 , CD20

References Jang, Juran, Cunningham, Gupta, Son, Yang, Ali, Enninga, Sung, Lazaridis (2020) Single-cell mass cytometry on peripheral blood identifies immune cell subsets associated with primary biliary cholangitis Scientific reports 10(1) 12584

Frontier progress

The relationship between primary biliary cholangitis (PBC), a chronic cholestatic autoimmune liver disease, and the peripheral immune system remains to be fully understood. Herein, we performed the first mass cytometry (CyTOF)-based, immunophenotyping analysis of the peripheral immune system in PBC at single-cell resolution. CyTOF was performed on peripheral blood mononuclear cells (PBMCs) from PBC patients (n=33) and age-/sex-matched healthy controls (n=33) to obtain immune cell abundance and marker expression profiles. Hierarchical clustering methods were applied to identify immune cell types and subsets significantly associated with PBC. Subsets of gamma-delta T cells (CD3+TCRgd+), CD8+ T cells (CD3+CD8+CD161+PD1+), and memory B cells (CD3-CD19+CD20+CD24+CD27+) were found to have lower abundance in PBC than in control. In contrast, higher abundance of subsets of monocytes and naïve B cells were observed in PBC compared to control. Furthermore, several naïve B cell (CD3-CD19+CD20+CD24-CD27-) subsets were significantly higher in PBC patients with cirrhosis (indicative of late-stage disease) than in those without cirrhosis. Alternatively, subsets of memory B cells were lower in abundance in cirrhotic relative to non-cirrhotic PBC patients. Future immunophenotyping investigations could lead to better understanding of PBC pathogenesis and progression, and also to the discovery of novel biomarkers and treatment strategies.