

ABSTRACT

Thesis: The Localization and Compartmentalization of VAMP 2 in Rabbit B Lymphoblasts

Student: Fatimah Albrekkan

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Abstract: Vesicle associated membrane protein 2 (VAMP 2) is a synaptic vesicle protein involved with exocytosis in many different cell types, such as pancreatic cells, parotid salivary cells, adrenal cells, skeletal cells, and adipocytes. Also, white blood cells such as eosinophils, neutrophils, and mast cells have been characterized to process VAMP 2. In this study, we tested the hypothesis that VAMP 2 is associated with the vesicle population in rabbits B lymphocytes and may serve as the v-SNARE for vesicular antibody release. Two Rabbit B lymphoblast cell lines were used to detect the presence of VAMP 2, which are the 240 E IgG secreting plasmacytoma-like cell line and 55D1 IgM surface expressing cells. The cell lines were broken down into vesicle and plasma membrane fractions. Immune dot blots demonstrated VAMP 2 was positive in the vesicle fraction of both cell lines. However, VAMP 2 was expressed more by the 240 E IgG secreting cell line. Western blots displayed diverse results with bands that ran at or below 20 kDa, which is consistent with the known molecular weight bands for VAMP 2 of 12.6 kDa and 18 kDa. Our results suggested that VAMP 2 is associated with the vesicle population in rabbit B lymphocytes and could serve as the v-SNARE for vesicular antibody release.