## Conclusion

Further research on immunological detection is needed to confirm that Sulfatide on the pancreatic beta cell plasma membrane is the target epitope for IC2.


## Acknowledgement

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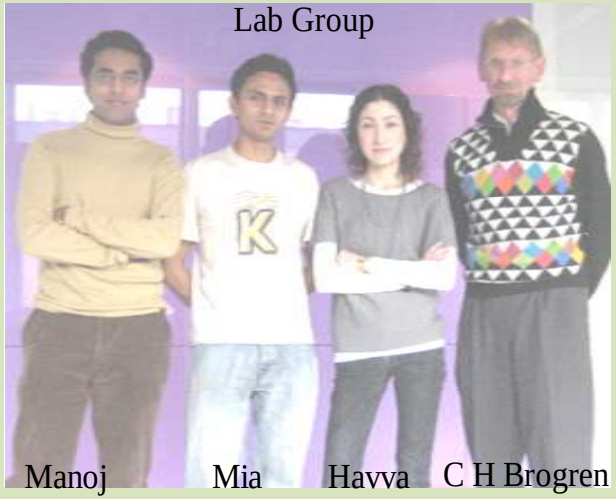
Lab Group



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# Identification of IC2 auto antigen on pancreatic beta cells


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## Background

In type-1 diabetes (TID), insulin-producing beta cells are mainly destroyed by an autoimmune process and the pancreas is unable to produce insulin. IC2, a unique beta-cell surface specific monoclonal autoantibody that raised from LPS–stimulated spleen cell of a diabetic BB-rat. The IC2 auto antigen (here sulfatide epitope) might involve to inactivate SNARE proteins as well as pathogenesis in TID.

*Sulfatide in the protein pocket recognize by IC2*

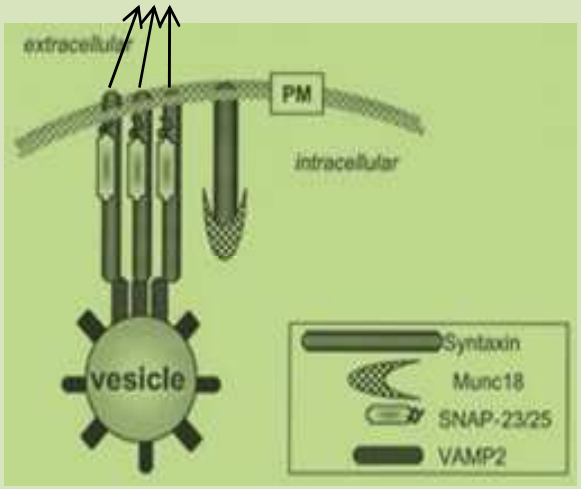


*Figure- SNARE proteins and their function in insulin secretion also dis-regulated by Sulfatide.*

## Hypothesis

To make confirm that Sulfatide on the pancreatic beta cell plasma membrane is the target epitope for IC2.

## Materials and Methods

TLC and HPTLC methods were applied with different cell (RIN-5AH, α TC19, RBL, AR42J and IC2 hybridoma cells) lipids. Lipid separation bands were detected using various chemical staining process (Primulin, Orcinol, Thymol, Carbazole, Cu-acetate and Fluorescence) as well as immuno blotting process

## Result and discussion

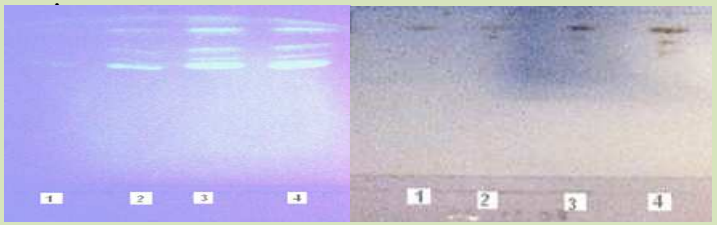


*Fig- HPTLC bands of both IC2 lipids (left) and RIN 5AH lipids are shown by using normal chemical staining.*

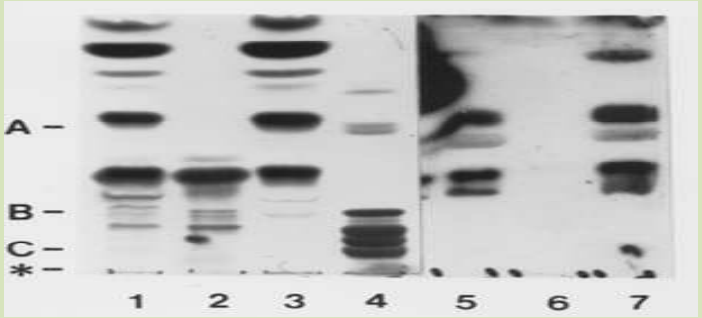


*Fig- RINm5F glycolipids were isolated, separated by TLC. Bands are shown by applying orcinol staining (lane 1-4) and immunostaining by IC2 (lane 5-7). Here, the position of human Brain chromatographic Standards galactosyl Sulfatide, ganglioside GM-1b ganglioside GT-1b are indicate by A-C respectively. (*) denotes the origin. Lane 1 & 5 RINm5F total lipid extract. Lane 2 & 6 RINm5F Folch upper phase's lipids. Lane 3&7 RINm5F Folch lower phase's lipid. Lane 4 human Brain glycolipid. (Fig-1 Spitalnik et al, 1991)*