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# OCA-B PEPTIDE INHIBITORS FOR THE TREATMENT OF TYPE-1 DIABETES

## THERAPEUTICS

OCA-B peptide inhibitor that blocks autoimmunity-preserving pancreatic  $\beta$ -cell functionality to provide long-term therapeutic benefit in type 1 diabetes and multiple sclerosis.

### TECHNOLOGY TYPE

Peptide  
Type-1 Diabetes  
Autoimmunity

### STAGE OF DEVELOPMENT

- Proof of concept established through testing in NOD mice with T1D onset.

- Ongoing studies for peptide characterization and safety.

### IP PROTECTION

PCT filed.

### LEARN MORE

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### TECHNOLOGY SUMMARY

Type 1 diabetes (T1D) is a chronic autoimmune disorder in which the host's immune system is directed towards antigens associated with insulin generating pancreatic  $\beta$ -cells. Life-long insulin therapy alleviates symptoms of T1D, but treatment complications and affiliated conditions, such as cardiovascular disease, continue to affect patients' health.

Guided by extensive target discovery and GWAS studies, along with a mouse model, a proprietary OCA-B peptide inhibitor has been developed as a treatment for T1D and multiple sclerosis. This approach reduces infiltrating T-cell numbers and alleviates T1D-associated elevated glucose levels without impairing T cell development, base-line function or T-cell memory function.

### FEATURES AND BENEFITS

- Provides cell-permeable peptide inhibitor for T1D treatment.
- Decreases reliance on external insulin therapy with preservation of pancreatic  $\beta$ -cells.
- Reduces side effects by lowering pathogenic T-cell function in T1D.

### RECENT PUBLICATIONS

Shakya, A., Goren, A., Shalek, A., German, C. N., Snook, J., Kuchroo, V.K., Yosef, N., Chan, R.C., Regev, A., Williams, M.A., Tantin, D. (2015). Oct1 and OCA-B are selectively required for CD4 memory T cell function. *The Journal of Cell Biology*. 211(2): 2112OIA234. doi: [10.1083/jcb.2112oia234](https://doi.org/10.1083/jcb.2112oia234)

### INVENTOR PROFILE

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