IDE inhibitors as novel therapeutic approach in Parkinson's disease and Alzheimer's disease (Ramot)

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Inhibition of IDE were suggested in the literature to be beneficial to both type I and type II diabetic. Nevertheless, currently there is no specific IDE inhibitor beside insulin itself or targeting Zink in the core of the enzymatic activity that might affect other enzymes. Recently, IDE has been proposed as the receptor for varicella-zoster virus (VZV). Based on this we have developed short peptides library of 8-20 amino acid peptide that can specifically inhibit IDE activity.

We showed that IDE inhibitor can ameliorate diabetes symptoms both in type 1 and type 2 diabetes mouse models and can increase blood insulin growth factor levels. Furthermore, our preliminary results show that treatment with nasal IDE inhibitor significantly improve cognitive behavior in AD mouse model and dopaminergic neuronal cells in vitro. We expect that the IDE inhibitor will increase neuronal survival and activity leading to novel therapeutic strategy in neurodegenerative diseases such as AD and PD

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