

SR-Exenatide For the Treatment of Neurodegenerative Diseases

Why Exenatide for Neurodegenerative diseases?

- Exenatide is 39-amino-acid peptide and belongs to a glucagon-like peptide-1 (GLP-1) agonist.
- Used for the treatment of type 2 diabetes mellitus (T2D).
- Discovered that Exenatide possesses beneficial “disease modifying” effects in neurodegenerative disease such as Alzheimer’s disease (AD) and Parkinson’s disease (PD).
- The first clinical data showed promising clinical efficacy in a ‘proof-of-concept’ clinical trial in patients with PD.

Profile SR-Exenatide (PT320) for the Treatment of Parkinson’s Disease

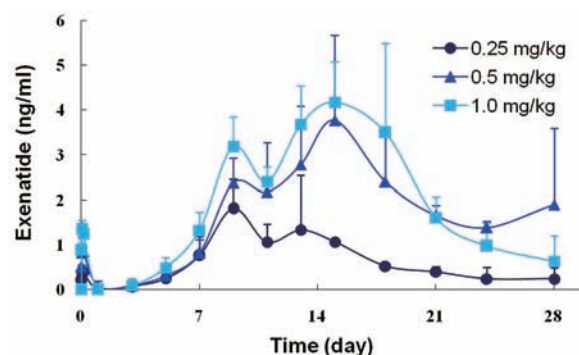
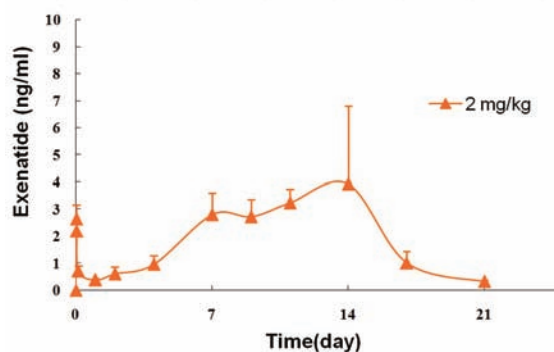
Peptron is planning to initiate a clinical trial of SR-Exenatide (PT320, once every two weeks formulation) for the treatment of Parkinson’s disease in late 2014.

The first clinical data were recently published that Exenatide (Byetta®: twice daily formulation, Amylin) showed promising clinical efficacy in a ‘proof-of-concept’ clinical trial in patients with PD.

On the strength of encouraging data, Peptron secured an exclusive license for the usage of Exenatide for the treatment of neurodegenerative disease in worldwide from the U.S. National Institutes of Health (NIH).

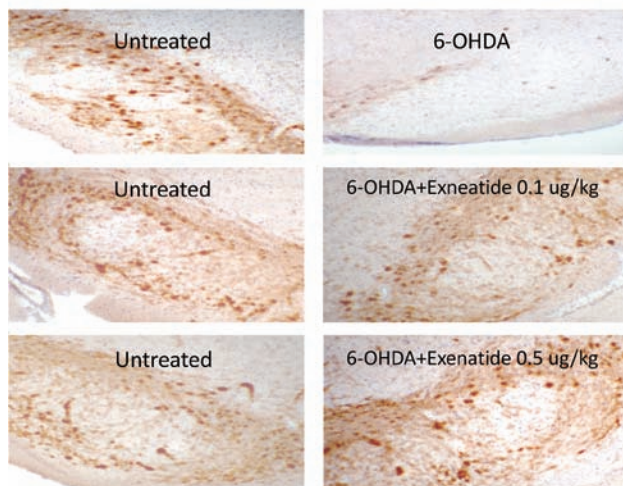
PT320: Pharmacokinetic Profile

PK profiles of single-dose subcutaneous injection from rat (the figure on the above) and dog (the figure on the below) are well matched with human PK data.



Preclinical Efficacy of Exenatide in Rodent Model of Parkinson's Disease

Neuroprotection against loss of nigral TH cells (enzyme for dopamine synthesis) in rodent model administered toxin (6-OHDA) to the dopaminergic system.



[Source] Journal of Neuroinflammation 5(19):1-9, 2008

Patent Status

6 Patents issued in the United States, Australia, Germany, France and Great Britain.

8 Patents pending in 6 countries: including the United States, Europe, Canada, Australia, India and Japan.

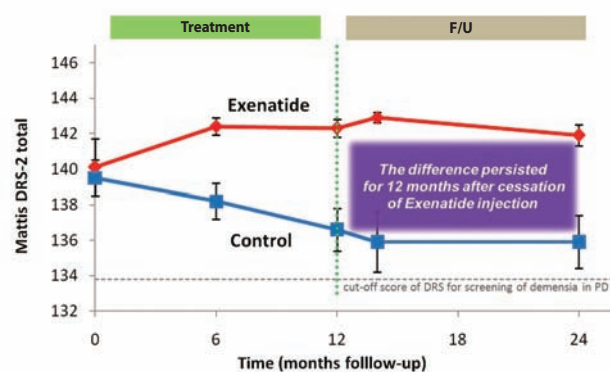
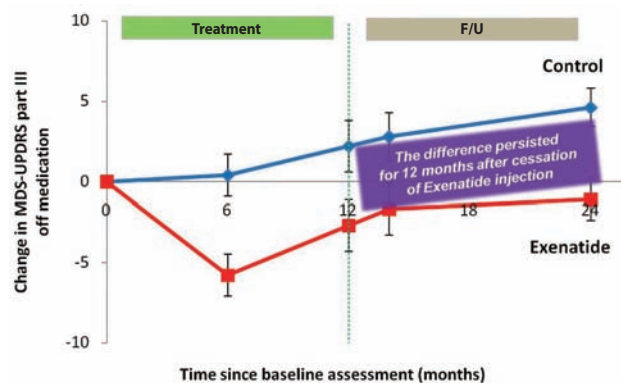
Market

In 2010, the global **Parkinson's disease** pharmaceutical market was valued at \$3.5bn, a CAGR 2006-2010 of 9.1% (Business Insights, 2011).

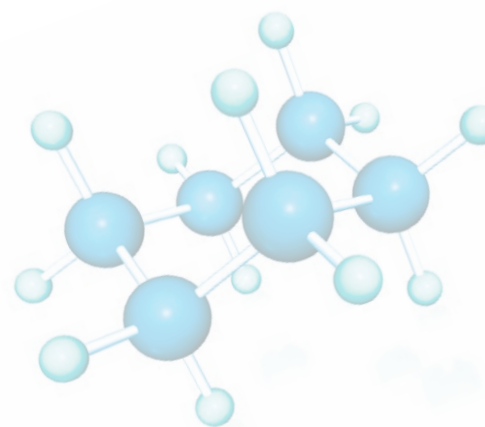
The sales of **Alzheimer's disease** drugs across the seven major markets were worth a combined total of \$5.3bn in 2011. By 2021, the global market is forecast to grow to \$12.5bn, at CAGR of 9.1% (Datamonitor, 2012).

Clinical Efficacy of Exenatide in Patients with Parkinson's Disease

Improvement in motor function and cognitive performance. Persistent efficacy after cessation of exenatide support the potential as disease-modifying drug in PD.



[Source] Journal of Parkinson's Disease 2014, Mar 24



PEPTRON: Neurodegenerative Diseases, May 2014