Acelot is a Life Science based R&D company focusing on advanced technology for computer aided drug discovery. Acelot applies this technology to discover new leads for Central Nervous System (CNS) diseases and to help its partners. *Acelot's business model is to provide in silico drug discovery services to biotech companies and to discover and develop novel drug leads for CNS diseases for out-licensing.*

Diseases without a cure Neurodegenerative diseases such as Alzheimer's disease (AD) and Parkinson's disease (PD) affect millions of people. AD is a dramatically unmet medical need affecting about 5 million people in the U.S., and projected to grow to about 14 million by 2050 (Neurology, Feb 2013). Similarly, in the case of PD, 50,000-60,000 new cases are diagnosed each year in the US, adding to the one million people who currently have PD.

Shortcomings of existing treatment options Existing therapeutics for these CNS diseases are at best palliative and do not address the underlying mechanisms of neurodegeneration and do not slow progression of the disease. Discovery of new drugs for these diseases has been hampered by the difficulty in identifying high-quality lead compounds with the desired bioavailability while avoiding side effects and toxicity.

Acelot's unique JPS approach The proprietary JPS approach (Fig. 1) analyzes 3D pharmacophore constellations of known lead molecules, builds a statistical model, and uses it to predict pharmacophore hypotheses and to identify novel, safe, and efficacious alternative leads with minimal side effects. Since it operates in the 3D space, *JPS's predicted leads have significantly different scaffolds*, enabling the exploration of new chemical spaces and potentially avoiding existing IP. Furthermore, *JPS does not require any target structure knowledge* like many other *in silico* approaches. This allows it to be used in difficult discovery projects with only partial binding knowledge. Acelot offers JPS-based drug discovery as a service or in a stand-alone software package.

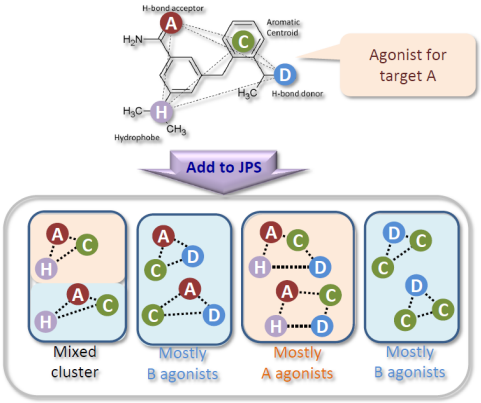

***Figure 1*: 3D pharmacophore analysis with JPS**

Acelot's drug discovery pipeline Acelot is applying the JPS approach to three families of drug candidates: two for AD and one for PD. The first family of drug candidates act by blocking the neurotoxic effects of the protein amyloid-β (Aβ), thought to be the root cause of neurodegeneration leading to AD. To date, Acelot isolated 7 compounds based on EC_{50} in a high quality phenotypic neuronal assay and subsequently narrowed the list to 4 compounds based on toxicity and permeability assays. These will be advanced through PK and behavioral assays next. The second family of drug candidates is RXR agonists that increase Aβ turnover, decrease Aβ abundance and thereby slow neurodegeneration. Acelot has identified various novel compounds and plans to advance them through the drug discovery pipeline in the coming months. For the PD-related drug candidates, Acelot is focusing on the LRRK2 gene that has been linked to early onset of disease, specifically the G2019S mutational variant. Acelot is pursuing LRRK2 agonists that bind to the mutant much more strongly than to the wild-type and could therefore form a treatment option with fewer side-effects.

Acelot is looking for joint development of the lead candidates for AD and PD, and other therapeutic areas where JPS can provide novel and unique leads. Furthermore, Acelot can aid in identifying novel IP-free lead compounds, in de-convoluting mixed signals from cell-based screens, and in establishing pharmacophore hypotheses even with limited structural knowledge.

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