



Eugene Consulting Inc.
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February/March 2019 Report

<http://www.pharmtech.com/ono-pharmaceutical-twoxar-collaborate-drug-discovery-research>

- On March 18, 2019, Ono Pharmaceutical (a Japanese pharmaceutical R&D company) and twoXAR announced that they signed a drug discovery research collaboration to discover and develop new treatments for a specific neurological disease (unannounced)
- twoXAR will use its AI technology to identify a set of lead compounds
- This will then be further optimized by Ono for potential drug candidates
- twoXAR will also predict the efficacy and safety of these lead compounds and the two companies will together select several compounds to test in further validation studies
- Ono will have all exclusive rights to develop and commercialize the compounds obtained through this collaboration
- twoXAR will receive research and license fees from Ono + development and sales milestones in return
- The CEO, Andrew A. Radin states that twoXAR continues to grow its drug development partnerships internationally
- This marks the second collaboration between twoXAR and a globally-operating Japan-headquartered partner

<https://labiotech.eu/biotech-of-the-week/som-biotech-huntingtons-disease/>

- SOM Biotech is a Barcelona-based company that is developing treatments for diseases such as Huntington's disease with drugs that are already on the market for other diseases
- By using existing drugs to treat other diseases, it lets the company get treatments to the market faster and at a lower cost than if they were to develop their own drugs
- SOM Biotech uses AI to predict which drugs might best treat a particular disease
- Benevolent AI is another company that does something similar – they repurpose treatments for Parkinson's disease
- At the moment however, SOM Biotech's technology is 3x better at predicting suitable drugs than competitor companies
- The company is currently in a phase IIa trial for an undisclosed Huntington's treatment
 - Results are expected later this year
 - SOM Biotech then plans to license the drug to an external company to move the treatment further through clinical trials
 - They are expecting the treatment to reach market within 5 years
- SOM Biotech was founded in 2009
 - Have already made a couple of licensing deals:
 - 1) US Company Corino Therapeutics – licensed out a treatment to treat transthyretin-related hereditary amyloidosis
 - 2) Singaporean company U-Cell Therapeutics – signed a licensing agreement to develop a treatment for brain cancers



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- The company recently raised a financing round of 7M euros to help with the development of the Huntington’s disease drug development
- The drug repurposing field is getting more interest from big pharma
- In the last 20 years, 11 companies that repurposes drugs were acquired by pharma
 - Ex. Canadian Aspreva Pharmaceuticals – purchases by Swiss Galencia for \$915M

<http://sombiotech.com>

- SOM Biotech’s business model us based in out licensing its own program and establishing joint-venture agreements for the development of repositioned drugs + in licensing opportunities to enrich their research pipeline
- Pipeline graph

AREA	PRODUCT	INDICATION	DISCOVERY	IN VITRO VALIDATION	IN VIVO VALIDATION	PHASE I	PHASE II	STATUS
NEUROLOGY ORPHAN	SOM0226	TTR Amyloidosis	[Progress bar from Discovery to Phase II]					Out Licensed
NEUROLOGY ORPHAN	SOM3355	Huntington T. Dyskinesia	[Progress bar from Discovery to Phase I]					Phase IIa (Huntington)
NEUROLOGY ORPHAN	SOM1201	Adrenoleukodystrophy	[Progress bar from Discovery to Phase I]					Ready for Phase IIa
NEUROLOGY ORPHAN	SOM1202	Adrenomyeloneuropathy	[Progress bar from Discovery to In Vitro Validation]					Pre-clinical
NEUROLOGY ORPHAN	SOM0011	Phenylketonuria	[Progress bar from Discovery to In Vitro Validation]					Pre-clinical
NEUROLOGY ORPHAN	SOM0036	Niemann-Pick	[Progress bar from Discovery to In Vitro Validation]					Pre-clinical

- To inquire about partnering opportunities: bd@sombiotech.com.

<https://ca.proactiveinvestors.com/companies/news/217244/aldeyra-therapeutics-shares-shoot-up-after-biotech-unveils-promising-phase-3-trial-results-for-conjunctivitis-treatment-217244.html>

- Shared of Aldeyra Therapeutics Inc dramatically increased on Tuesday March 26 after the company announced promising results from a Phase 3 trial for its allergic conjunctivitis treatment
 - Shared went up by 34% to \$9.58 in afternoon trade
- The company plans to meet with regulators in the 2nd half of this year to discuss the trial results and remaining clinical requirements as its moves to potentially submit a new drug application for reproxalap to the DFA
- Their results suggest the potential of topical ocular reproxalap as a new, safe, and effective therapeutic option that could be used to complement existing therapy



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- They also entered into a loan and security agreement with Hercules Capital that provides up to \$60M in financing

<https://missionbio.com>

- An American precision genomic company
- The company's mission is to help researchers and clinicians unlock single-cell biology to enable the discovery, development, and delivery of precision medicine
- Tapestry is their Precision Genomics Platform
 - Claim to be the industry's first scalable, customizable, single-cell DNA analysis platform
 - Their Tapestry Platforms provides insight into the heterogeneity among cells that drive complex diseases like cancer
 - Help researchers understand genetic variability (ex. mutation co-occurrence at the single-cell level)
 - Can be used to map disease progression and better guide dynamic treatment
 - Delivers targeted solutions

<https://vator.tv/news/2019-03-28-mission-bio-partners-with-labcorp-to-push-genomics-in-drug-development>

- Mission Bio announced a partnership with biopharma research company LabCorp to help accelerate biopharma clinical trials
 - Mission Bio's technology called the Tapestry Platform is used by researchers, hospitals, and clinicians to detect disease progression and treatment response, inform drug discovery and verify gene edits
 - It is currently being used by more than a dozen cancer centers, including the National Cancer Institute, Icahn School of Medicine at Mount Sinai, MD Anderson Cancer Center, Memorial Sloan Kettering Cancer Center, University of California-San Francisco, the University of Pennsylvania, and Washington University School of Medicine
- LabCorp's Covance Drug Development Business will be the first global contract research organization to offer services on the Tapestry Platform
 - They are also evaluating the Tapestry Platform for applications in clinical diagnostics and in the development of new companion diagnostics
- In December, Mission Bio raised a \$30 million Series B funding round
- The company has raised more than \$50 million in total
- The partnership with LabCorp is largely to support Mission Bio's global expansion and make sure their pharma partners can access their technology at the scale that they need
- Mission Bio also formed a partnership with contract manufacturing organization Argonaut Manufacturing Services
 - They will be building the kits that go out to Mission Bio's customers



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<https://labiotech.eu/medical/uk-government-healthcare-genomics/>

- UK government is take a positive stance towards incorporation of genomics into healthcare
 - This has created many business opportunities for the country's biotech companies
- Following completion of the 100,000 Genomes Project at the end of 2018, the NHS Genomic Medicine Service launched
 - This service aims to incorporate data and knowledge about human genomics into standard healthcare
- Genomic England now has large amount of important genetic data → great opportunities for collaboration for complies in this field
 - Ex. Cambridge Cancer Genomics is partnering with Genomics England to improve access to and effectiveness of cancer immunotherapies using AI technology
 - They have developed a 'sequencing panel' as part of its work with Genomics England to allow quick and cost-effective estimation of tumour mutations (measuring the amount of mutations in a tumour using whole genome sequencing)
 - Combining this with their 'liquid biopsy' blood tests would allow oncologists to predict how well a patient would respond to therapy and when they are becoming resistant
- Genomics is an Oxford-based biotech that raised 37M euros in a Series B round at the end of last year → they are also hoping to take advantage of the UK government's interest in personalized medicine
 - The company uses machine learning to mine genomic data and predict the outcome of therapy for diseases
 - They focus on advancing personalized medicine
 - They announced in the week of March 21 2019 that they have developed predictive genetic tests for 16 common diseases (including asthma, glaucoma, prostate cancer)
 - The company calculates a 'polygenic risk score' for each condition by combining information on how many genetic variants a person has that are linked to increases risk for developing each condition
- Genomic England has been actively encouraging industry partnerships for several years through their Discovery forum – a platform to enable industry partners and others to collaborate and use data from the 100,000 Genome Project
 - Cambridge Cancer Genomics and Genomics are both members of this
 - Other members include innovative UK biotechs in the genomics space like Cambridge Epigenetic and Eagle Genomics

https://www.eurekaalert.org/pub_releases/2019-03/mdcf-npi032819.php

- The European Advanced infraStructure for Innovative Genomics (EASI-Genomics) is a project funded under the European Union's research and innovation programme Horizon



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2020 that will provide researchers free-of-charge access to cutting-edge European genomic facilities

- EASI-Genomics will join 16 partners to support diverse genomics projects from study design to bioinformatic analysis
- EASI-Genomics is an infrastructure project with a total budget of 10 million euro that will handle between 150 and 300 projects over a period of 4 years
- The project started with a kick-off meeting on Feb 18 and 19, 2019 in Barcelona, Spain
- Their mission is to provide easy access to cutting-edge DNA sequencing technologies to researchers and supporting scientists to ensure that they are meeting the latest European and national ethical and legal requirements