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Groundbreaking algorithm predicts best treatment for cancer patient

ROTTERDAM, the Netherlands and SAN DIEGO USA, July 30th, 2018: Renowned scientific journal Nature Communications published July 27th, 2018 a research paper by Joske Ubels on the algorithm GESTURE™¹ that links individual cancer patients to a specific therapeutic treatment. With this method one is able to prescribe the best therapy, reduce the risk of disease progression considerably and give the patient a better outlook. “GESTURE™ looks through piles of data and searches for patients that have genetically similar cancer cells but received different treatments. The therapeutic treatment that gives the best result is indicated as preferred treatment for all future patients with the same cancer profile”, says Ubels. This on ‘machine learning’ based algorithm can be used for any disease with sufficient available (patient) data and is scientifically validated for the blood cancer Multiple Myeloma (Kahler’s disease)².

Joske Ubels wrote this research paper in collaboration with the research group of Jeroen de Ridder, Associate Professor in the Center for Molecular Medicine at UMC Utrecht (the Netherlands), the research group of Professor Pieter Sonneveld at Erasmus Medical Center (the Netherlands) and SkylineDx, a high-tech company in the field of (cancer) diagnostics (the Netherlands and USA). “Undergoing cancer treatment is burdensome and involves severe side effects. In addition, treatment is often only effective in a small proportion of patients. It is therefore really important that a doctor can determine at the moment of diagnosis which treatment will be used to battle the cancer”, says Dharminder Chahal, CEO SkylineDx. “Predicting the right treatment for the right patient is extremely difficult because it is impossible to go back in time, prescribe a different treatment and then measure how the patient would have responded to it”, explains Ubels. To solve this problem, we created the algorithm GESTURE™.

GESTURE™ and personalized medicine

The functioning of GESTURE™ has been tested on a large data set of Multiple Myeloma patients. Bortezomib (Velcade®) and lenalidomide (Revlimid®) are widely used treatments for this blood cancer. GESTURE™ proved its efficacy by identifying a group of patients for both treatments (19.1% for bortezomib and 31.1% for lenalidomide) that responded significantly better than the overall patient group and with that reducing the risk on disease progression considerably. “With the invention of GESTURE™ we are getting closer towards

personalized medicine. This means better quality of care and therefore better perspectives for the patients and at the same time an improvement of accessibility and affordability of healthcare. SkylineDx is committed to further develop the outcomes of GESTURE™ into diagnostic profilers that support the life of patients and improve care.”, concludes Chahal.

Footnotes

1. GESTURE™ is the acronym for ‘**G**ene **E**xpression-based **S**imulated **T**reatment **U**sing **s**imila**R**ity between pati**E**nts’
2. Ubels et al. Predicting treatment benefit in multiple myeloma through simulation of alternative treatment effects. Nature Communications. 2018. (visit online: <https://www.nature.com/articles/s41467-018-05348-5>)

About SkylineDx

SkylineDx is a high-tech commercial-stage biotech company headquartered in Rotterdam, the Netherlands and a commercial office and laboratory in San Diego, California, USA. The company uses its expertise to bridge the gap between academically discovered gene expression signatures and commercially available diagnostic products with high clinical utility. With the focus on diagnostics, SkylineDx assists healthcare professionals in accurately determining the type or status of the disease or to predict a patient’s response to a specific treatment. Based on the test results, healthcare professionals can tailor the treatment to the individual patient. To learn more, please visit www.skylinedx.com.