



Application Note: Identify health properties of compounds?



Background.

Identification of bioactive compounds and determination of their mechanisms of action and effects on health represent an area of research that is still in its infancy and speeding the arrival of active ingredients with health benefits requires innovative approaches. BMYScreen proposes to offer its scientific and technical expertise in molecular processes of cell adaptation (e.g. stress pathways such as oxidative stress, endoplasmic reticulum stress and metabolic stress) and disease development to identify health effects of innovative compounds.

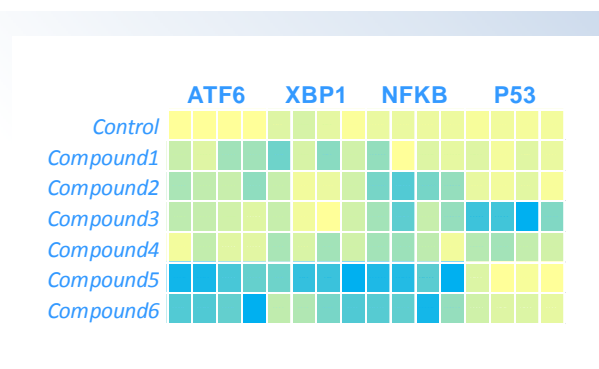


Figure 1. Pathways screening

BMYScreen proposes to explore the ability of compounds to activate protective molecular pathways of the body (Here: ER stress (ATF6, XBP1), inflammatory response and oxidative stress (NFKB) and cell proliferation and cell death (P53)) using cellular reporter systems.

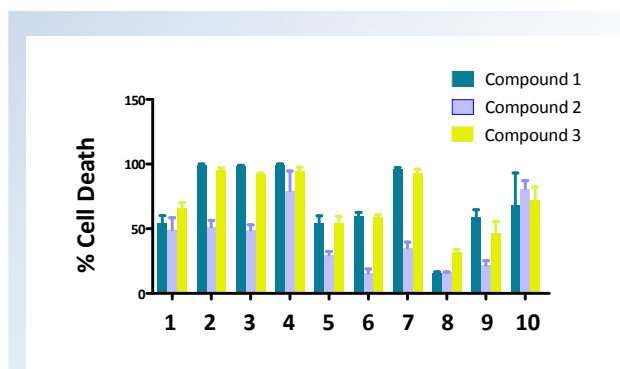
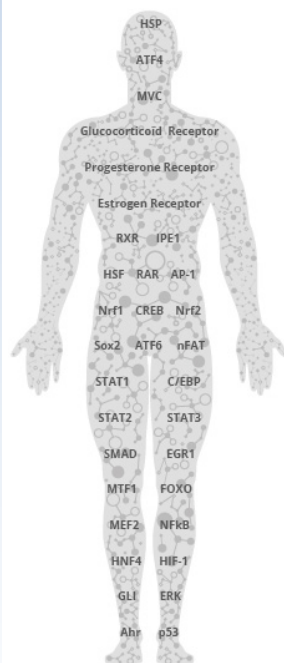


Figure 2. Toxicity screening

BMYScreen has developed the Cell Cytotoxicity assay to measure cell death and cell proliferation simultaneously using cell imaging technology. The graph presented here represents an example of exploring the effect of three compounds in 10 cellular conditions.



Applications.

BMYScreen team proposes to combine two approaches in order to maximize the chance of identifying health effect potentials of a sole or group of given compounds. The first approach consists of screening for the activation of molecular pathways involved in health protection or disease development (Figure 1). The pathways can be selected regards to a target pathology. The second method has been designed to measure simultaneously the impact of conditions on cell death and cell proliferation (Figure 2). Using this method we can provide informations regarding the ability of compounds to protect selected cell line models to diverse stressful conditions that mimic environmental challenges to the body.

Questions? Please contact us: BMYScreen@gmail.com