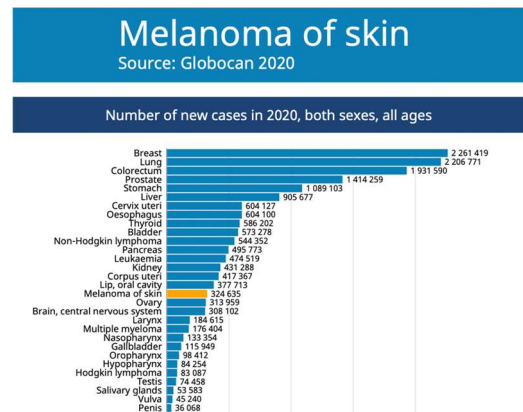


A high-throughput screening system for the identification of eIF4F inhibitors with anti-melanoma activity

We have developed a new system for the identification of small-molecule inhibitors of the translation initiation complex eIF4F, a potential therapeutic target in many human cancers [1, 2], including drug-resistant malignant melanoma [3]. The current portfolio of eIF4F inhibitors is limited, and only one compound has entered the clinical evaluation phase so far. The state-of-the-art approaches for eIF4F inhibitor identification are based on techniques that are costly, time-consuming, or rely on expensive equipment for automated image analysis [4]. In contrast, our unique approach, based on a recent identification by our group of new eIF4F targets, overcomes many limitations of the current techniques.



Application

- High-throughput cancer drug discovery.
- A drug library screening tool to rapidly identify small molecule inhibitors of eIF4F to overcome melanoma resistance to clinically used BRAF/MEK inhibitors.

Competitive Advantage

- A rapid high-throughput cell-based drug screening tool compatible with standard drug discovery pipelines.
- Significantly faster, more sensitive and less cost intensive than the current state-of-the-art techniques.

Project Leader

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Market Assessment

- Worldwide an estimated 57,043 melanoma patients died in 2020. These numbers are predicted to rise by 2040 to 100,000 melanoma patient deaths per year.
- A significant proportion of these patients could be saved if resistance to clinical BRAF/MEK inhibitors could be prevented.

IP Status

- IP protection: Patentability assessed in discussions with TTO and SPARK mentors. We decided to proceed to the practical application of the newly developed drug discovery tool under confidentiality only.

Needs

- Expertise in drug discovery and medicinal chemistry.
- Investors for the preclinical phase of drug discovery.
- Business partners in the pharma industry.
- Mediating communication with pharma industry partners.

References

- [1] doi: 10.1016/j.ccr.2004.05.024
- [2] doi: 10.1158/0008-5472.CAN-14-2789
- [3] doi: 10.1038/nature13572
- [4] doi: 10.1016/j.xpro.2021.100621