



The use of ToxTracker for the toxicological assessment of tobacco and nicotine delivery products

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Presentation ST49

Introduction

Nicotine product development is an area of rapid evolution.

Innovation has brought about a proliferation of products, devices and consumables.

Testing is required to assess the effects of product changes:

- Temperatures

- Formulations

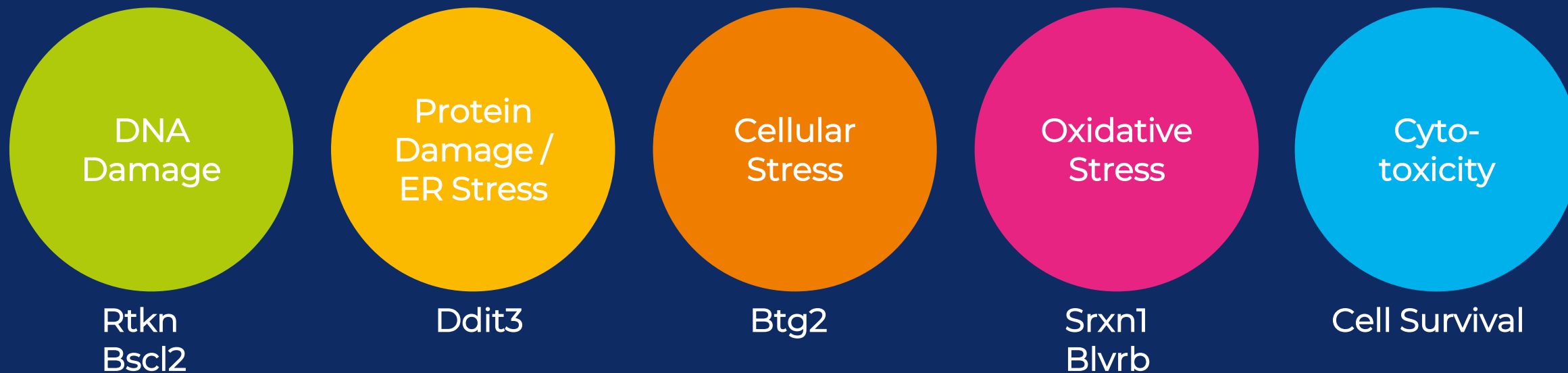
- Flavours

- Aerosol composition

There is an industry need for flexible screening platforms to enable rapid product assessment

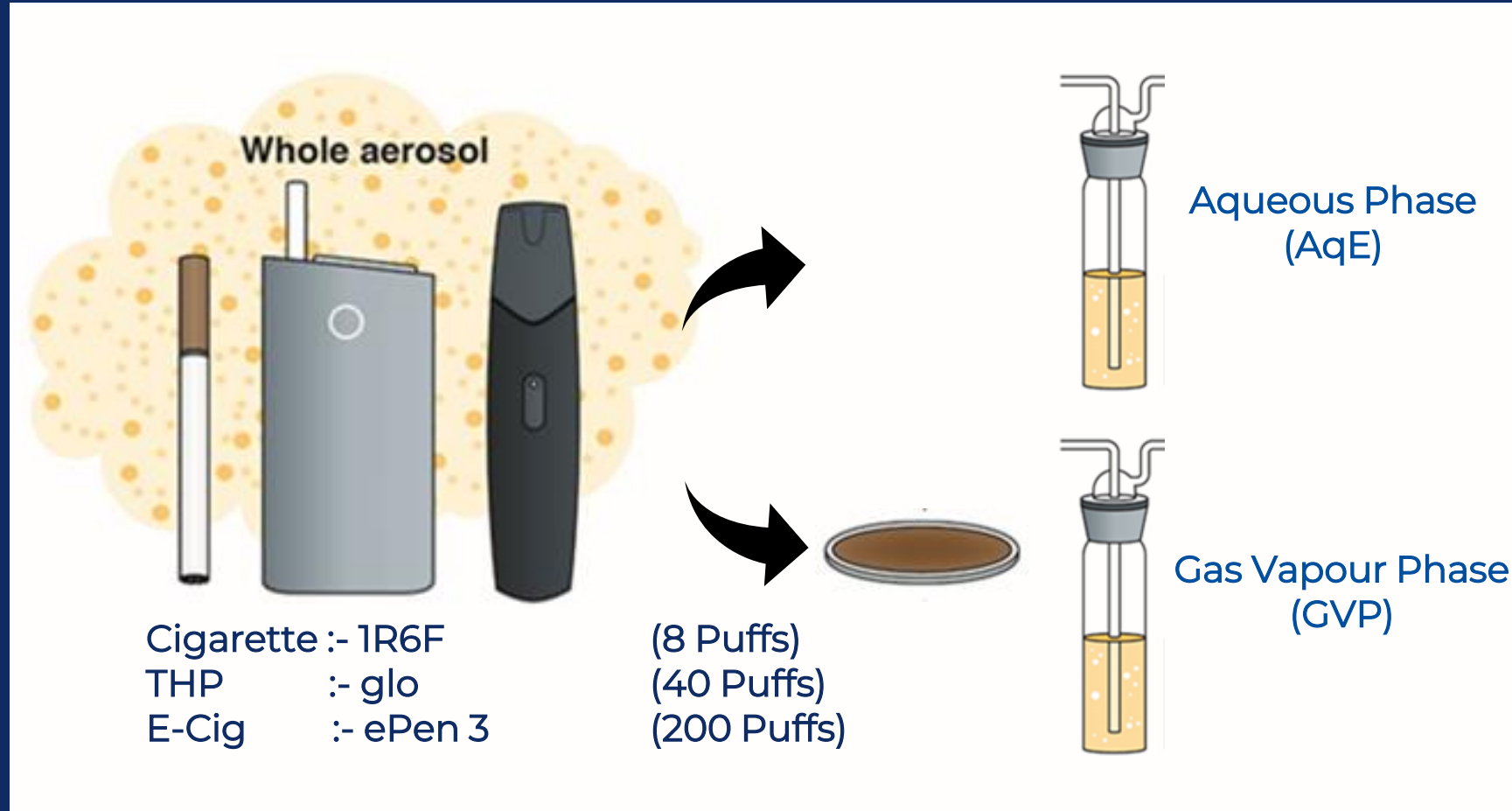
ToxTracker® Assay (Toxys)

ToxTracker is a flow cytometry-based reporter genotoxicity screening assay

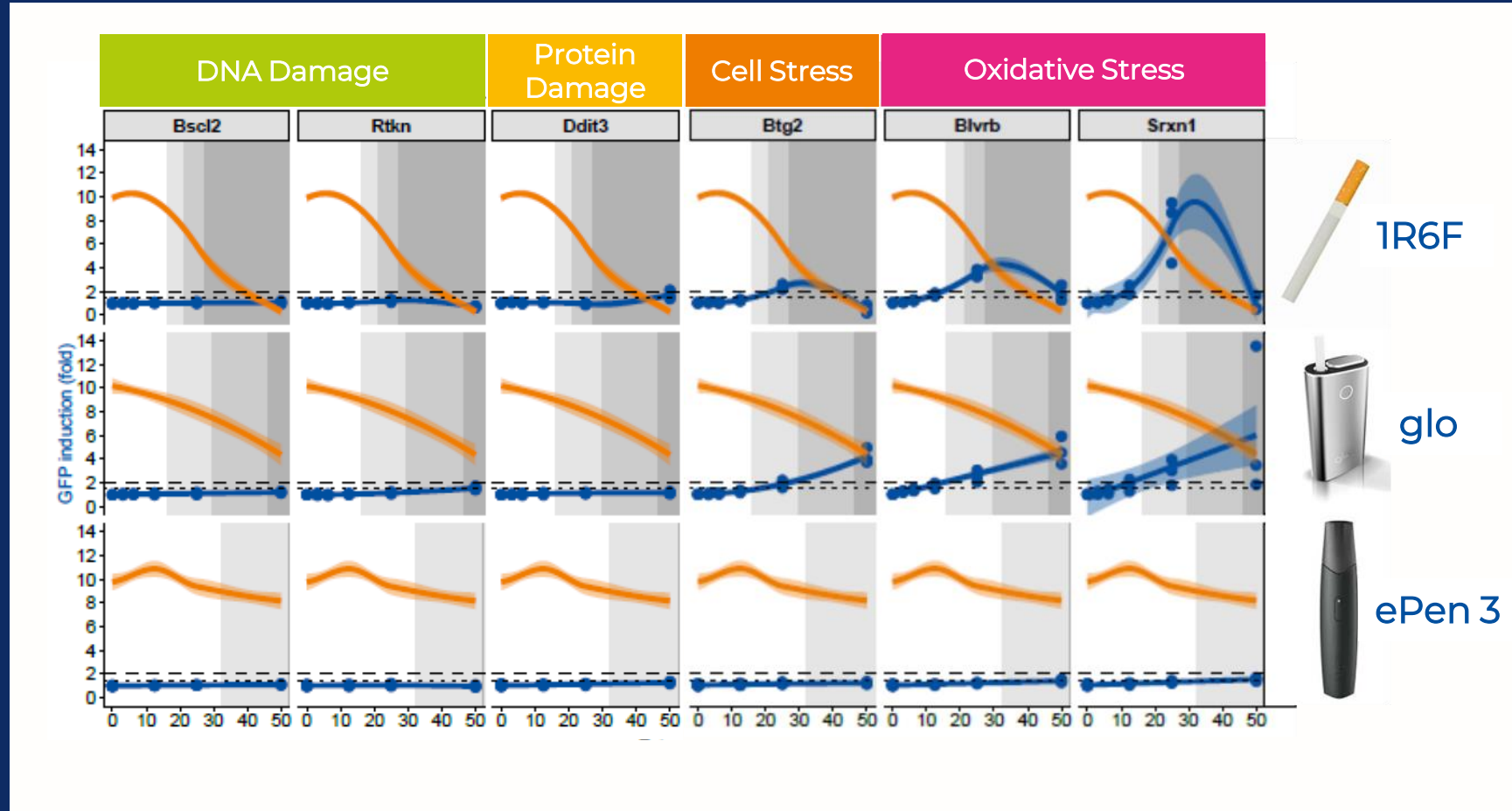


Test Matrix Preparation for Assessment of Product Aerosols

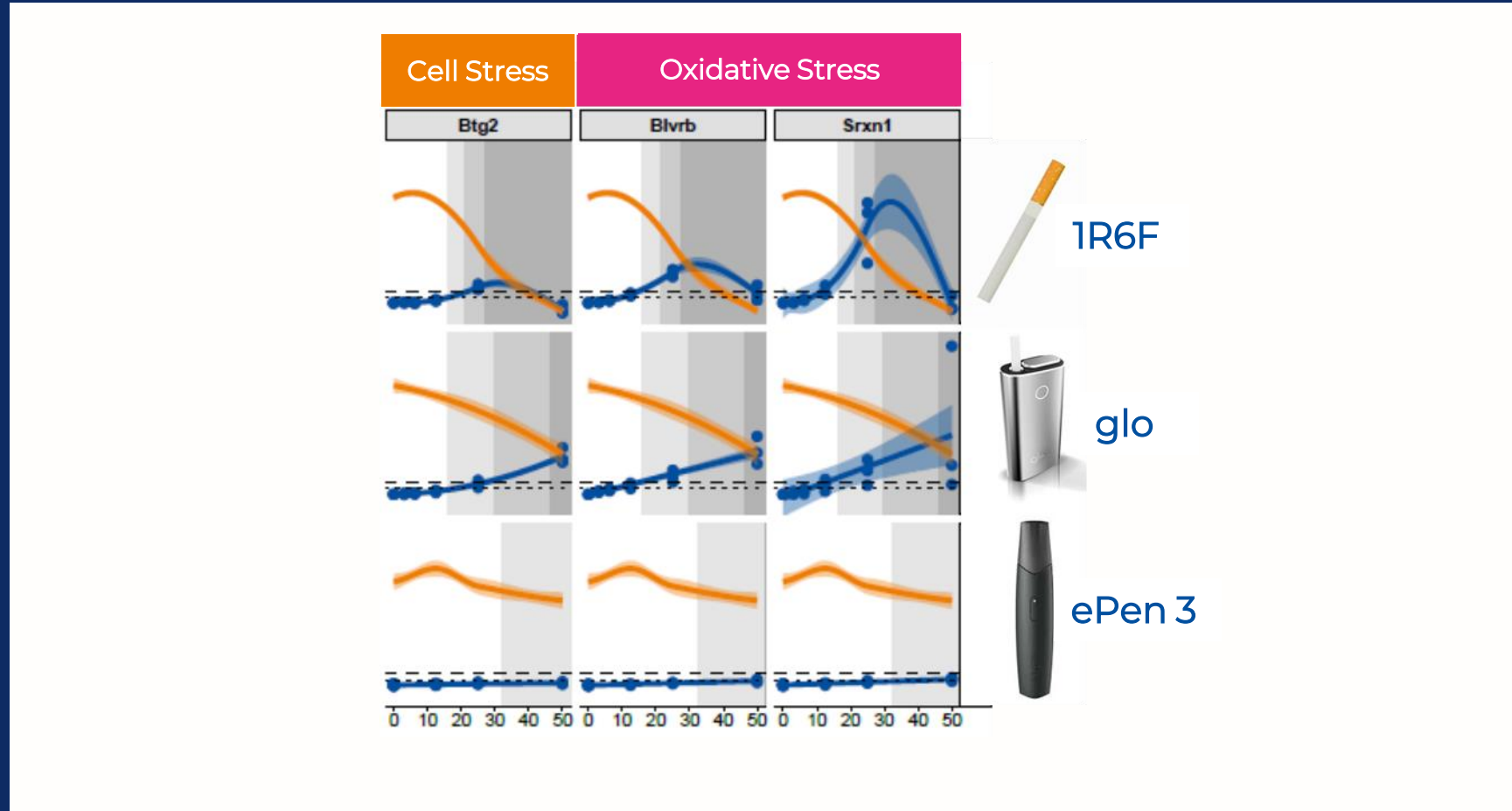
Capture of Gas Vapour and Aerosol Aqueous Phase from products



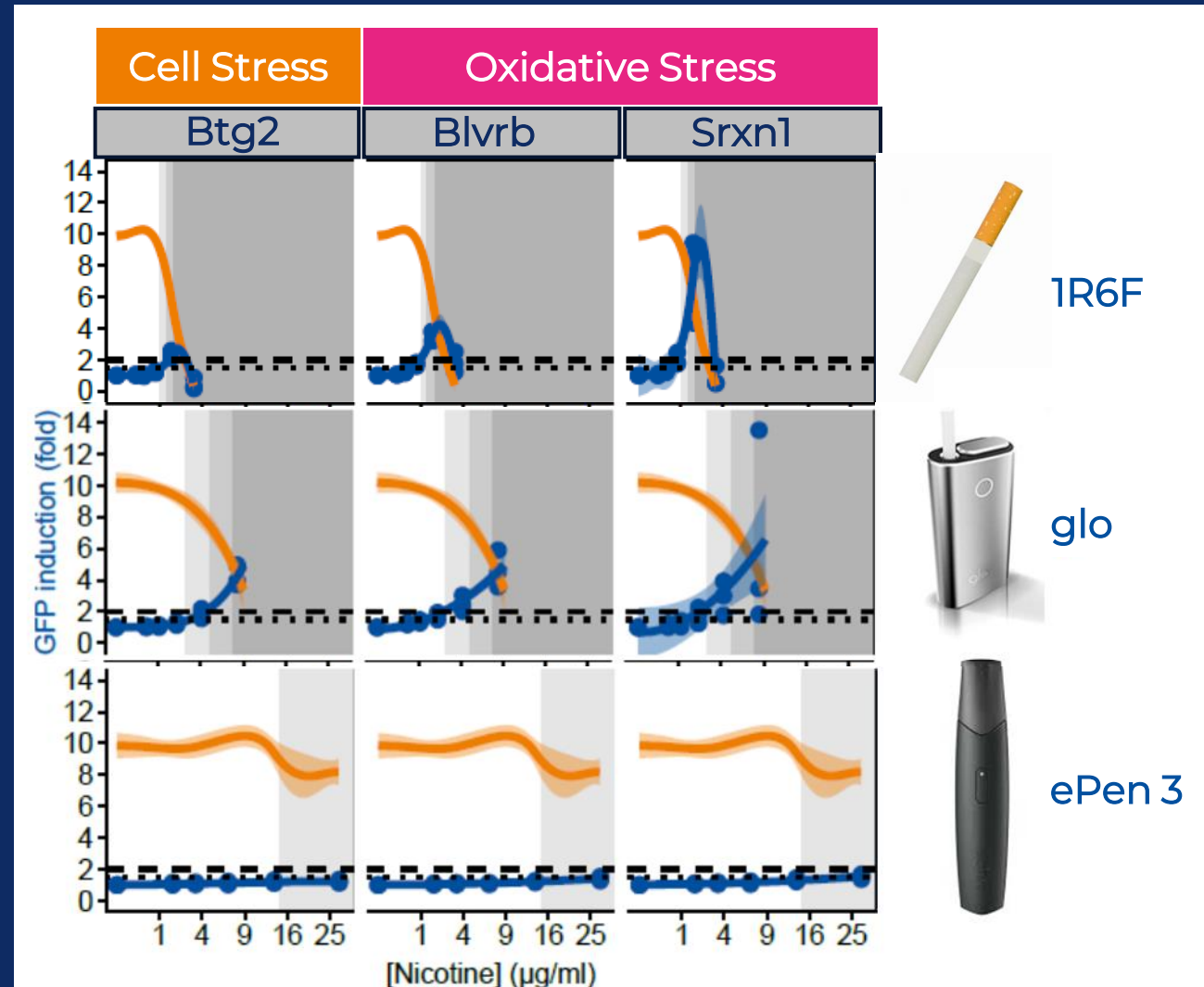
Product Screening Using ToxTracker Genotoxicity Panel



Product Screening Using ToxTracker Genotoxicity Panel

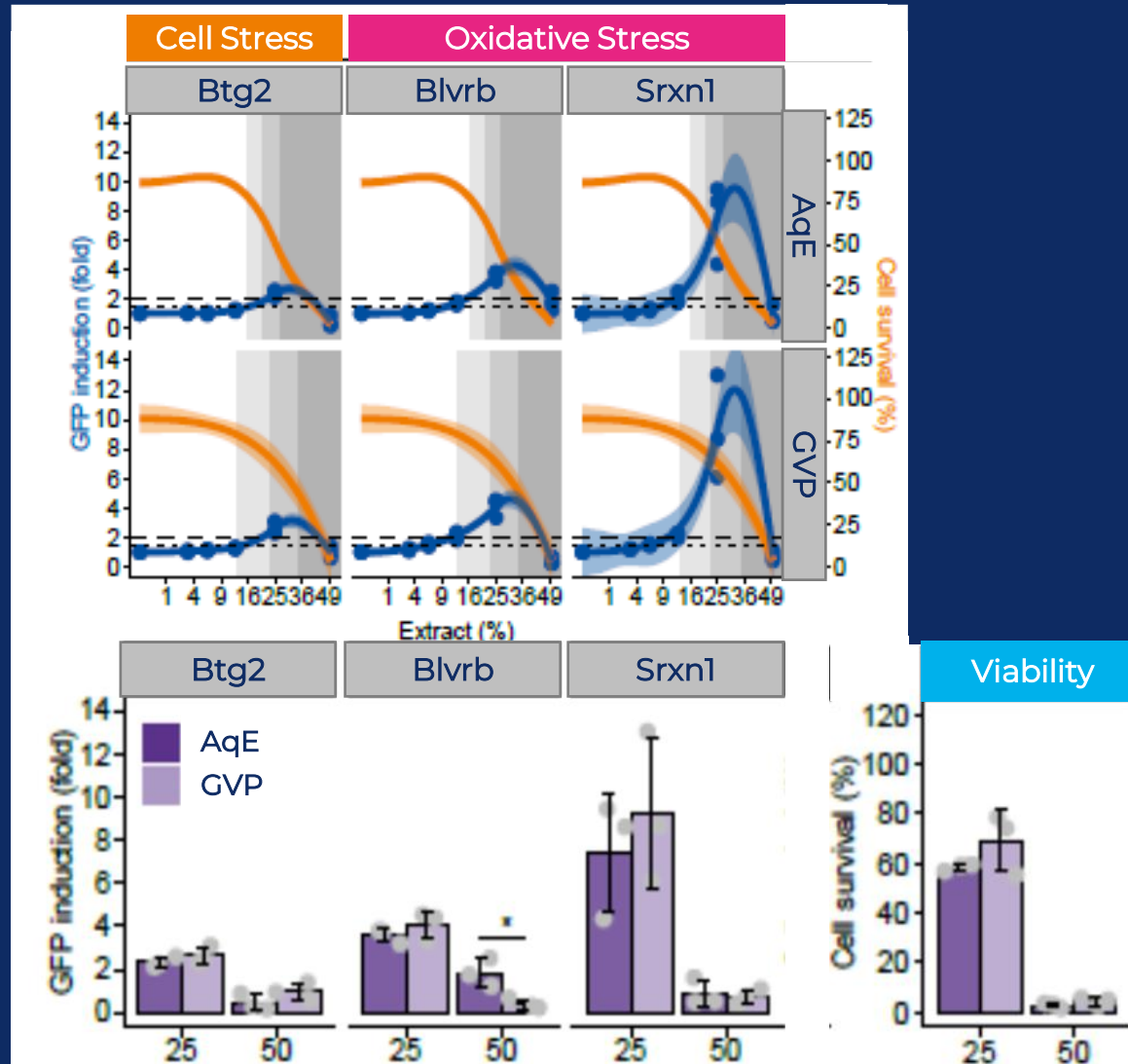


Product Screening Using ToxTracker Genotoxicity Panel



Glo and ePen 3 show reduced activity compared with reference cigarette

GVP and AqE Comparison - Reference Cigarette

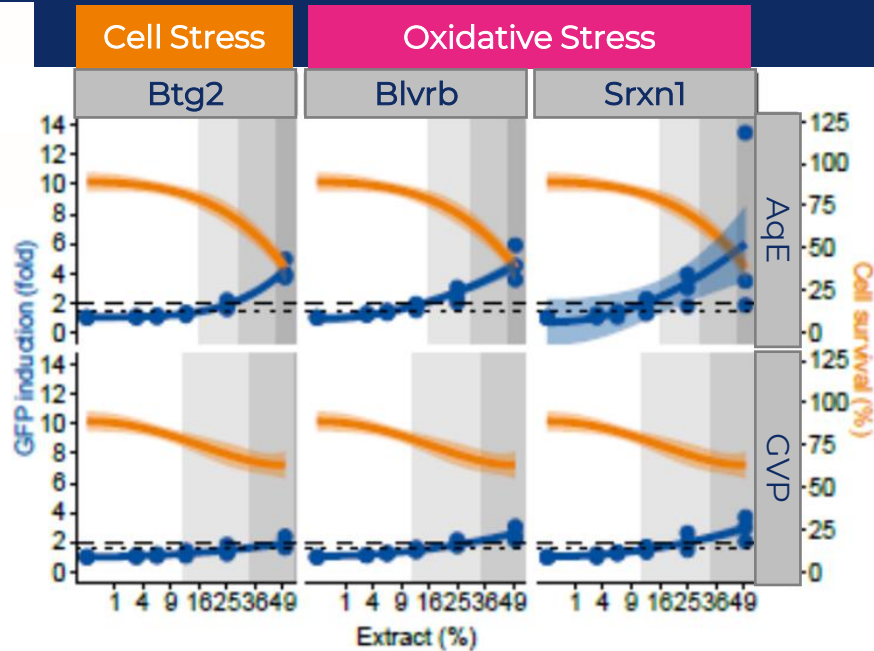


Cigarette GVP and AqE extracts provide similar responses across endpoints

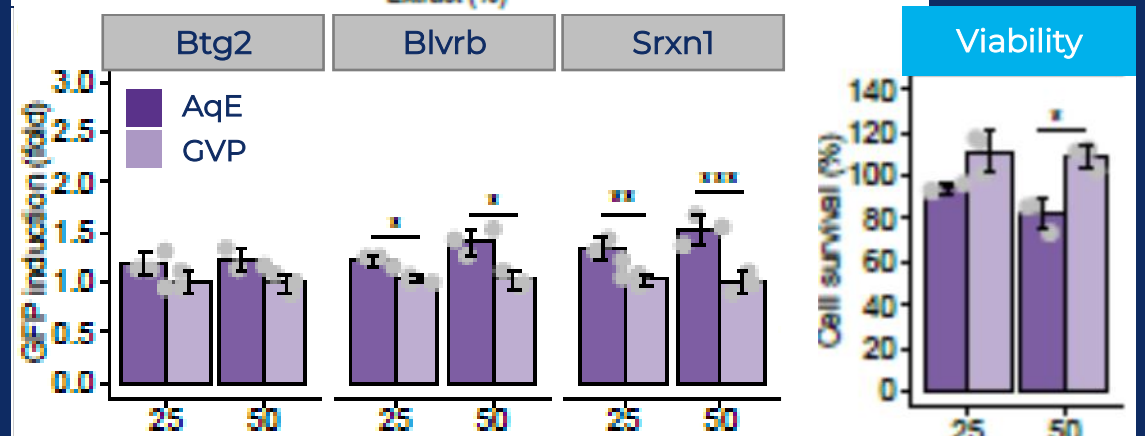
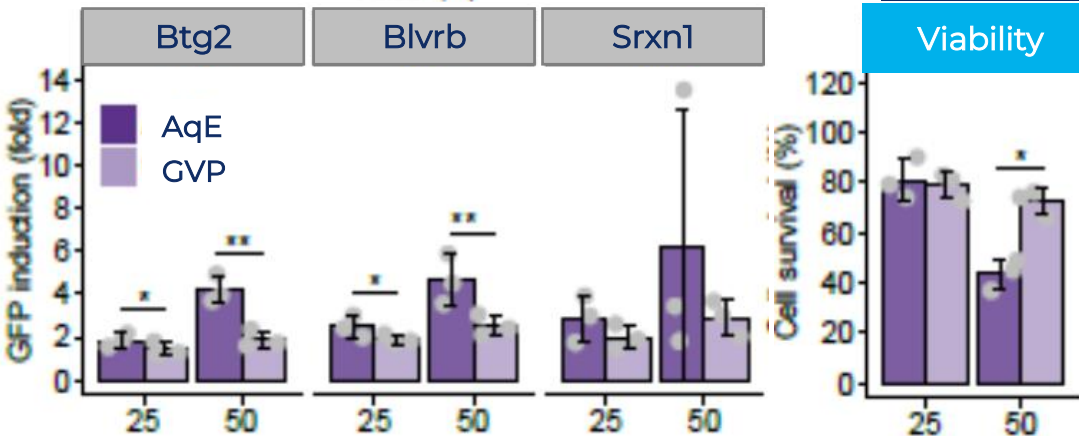
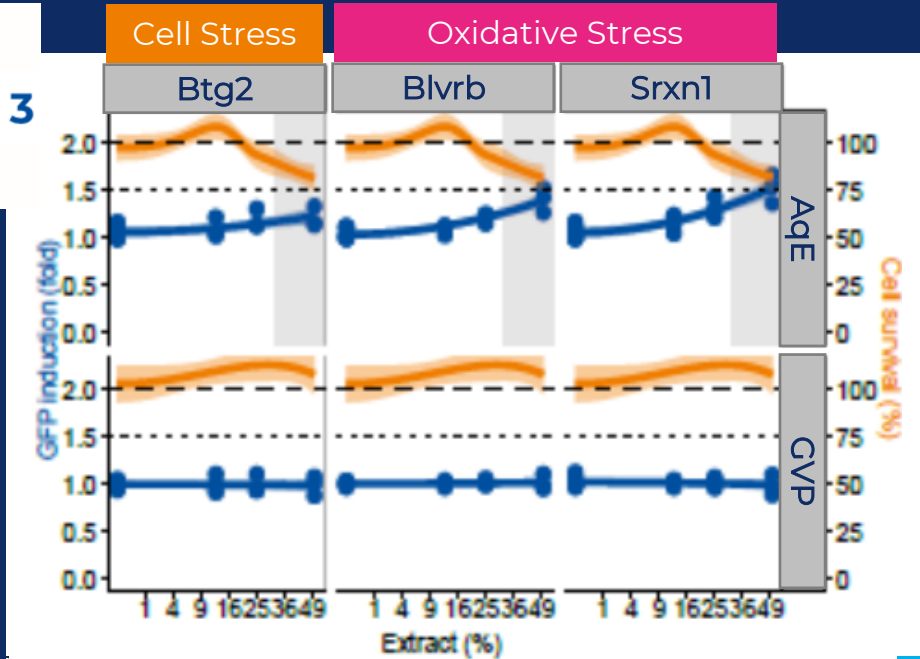
GVP and AqE Comparison - glo and ePen 3



glo



ePen 3



GVP demonstrates a significant reduction in response for both glo and ePen 3

Summary

THP (glo) and e-cigarette (ePen 3) demonstrate reduced oxidative and cell stress when compared to cigarette, with ePen 3 least active

THP and e-cigarette showed reduced cytotoxicity when compared to cigarette by both nicotine and by puff

Extraction matrices are not comparable across product categories, it is likely that this difference is due to differing aerosol composition

Conclusion

The fast-moving nature of the nicotine product market has generated a need for rapid toxicity assessment. One such technology to fulfil this niche is ToxTracker.

New toxicology testing platforms facilitate rapid product assessment

However, consideration of test matrix is important when comparing products from different categories.

Incorrect test matrix choice or following the dogma in device testing may lead to misrepresentation or misinterpretation of findings.