NOMAD BIOSENSORS

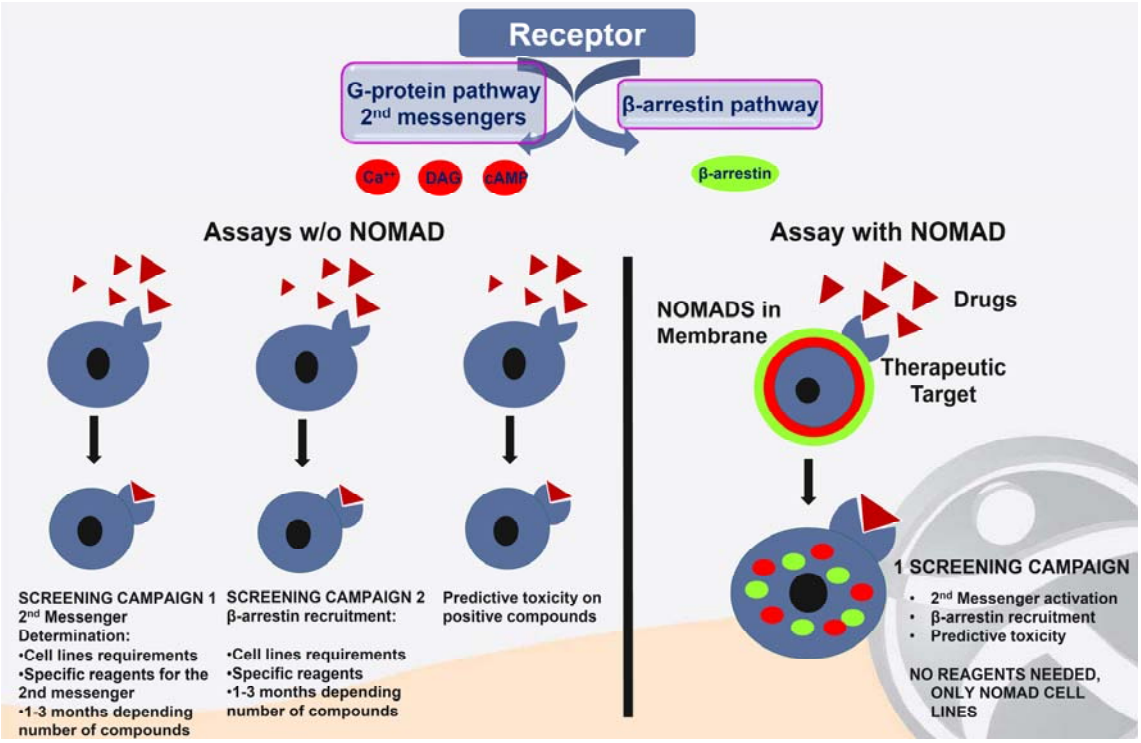
Innoprot has developed a proprietary drug discovery technology for ***multiplexing target-based screening*** assays using fluorescent biosensors. This technology called Nomad Biosensors allows the measurement in vitro of the ***different activation pathways*** of the most important targets, performing ***one single assay***.

The use of Nomad Biosensors in a screening campaign reduces the time, costs and resources needed in more than a 50-70%. It is the unique way to identify biased ligands in a single assay, which may reduce on-target adverse effects or engender novel pharmacology.

First Application – GPCRs screening

As the main family of pharmaceutical targets are GPCRs (30-40% of actual drugs in the market), our first application for Nomad biosensors are focused on these targets. There are two mechanisms involved in the activation/inhibition of GPCRs, second messenger-mediated and β-arrestin recruitment.

The first one may involve Ca^{++}, cAMP or DAG, depending on the specific target, so three different biosensors have been already developed for each one of these second messenger. Another biosensor with a different fluorescent color has been also developed to monitor b-arresting recruitment. A combination of the different fluorescent biosensors with the specific target, allows performing a multiplex GPCR screening campaign measuring only red and green fluorescence intensity. The information obtained allow the classification of the GPCRs as non active, fully active, b-arrestin mediated active or 2nd messenger mediated active.



Competitive Advantages

- The use of Nomad Biosensors in a screening campaign reduces the time and resources needed in more than a 50%.
- Total costs could be reduced in more than a 75% percent, since no additional reagents are necessary to perform the screening campaigns, only the Nomad Cell lines expressing the "targets" are needed.
- It is the simplest way to identify biased ligands in a single assay, which may reduce on-target adverse effects or engender novel pharmacology.
- No special equipment requirements. Traditional fluorescence microplate readers could be used but also more complex HCS systems.
- The approach does not involve the genetic modification of any of the component of the receptor pathway in the cell, thus, the signalling cascade remains unaltered.

What we sell?

- Products
    - Stable Cell lines overexpressing a label-free GPCR and one or more biosensors – Nomad Cell Lines
- Services
    - Customized assay development
    - HTS/HCS services
    - Customized cell line development
- Licenses
    - With each license, our customers receive the different parental cell lines expressing only one or more fluorescent biosensors, allowing them to develop their own Nomad cell lines for HTS/HCS purposes.

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