

# Nuclear Receptor Assay Tools

pGL4 Luciferase Vectors,  
Dual-Luciferase<sup>®</sup> Assays and more...

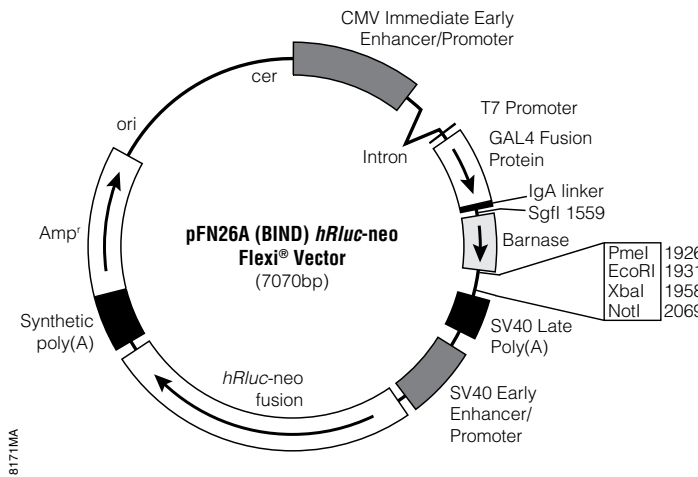
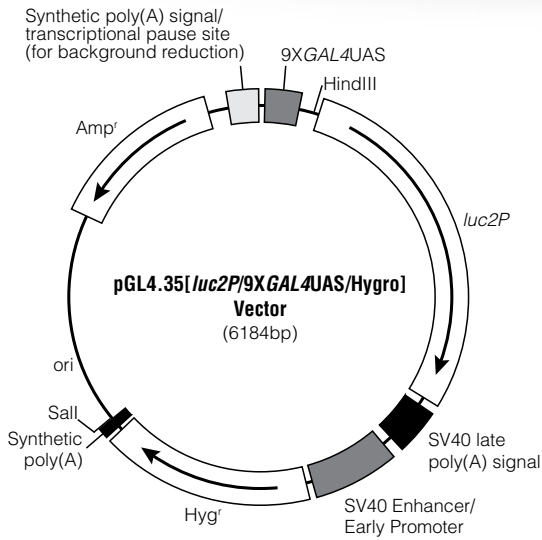
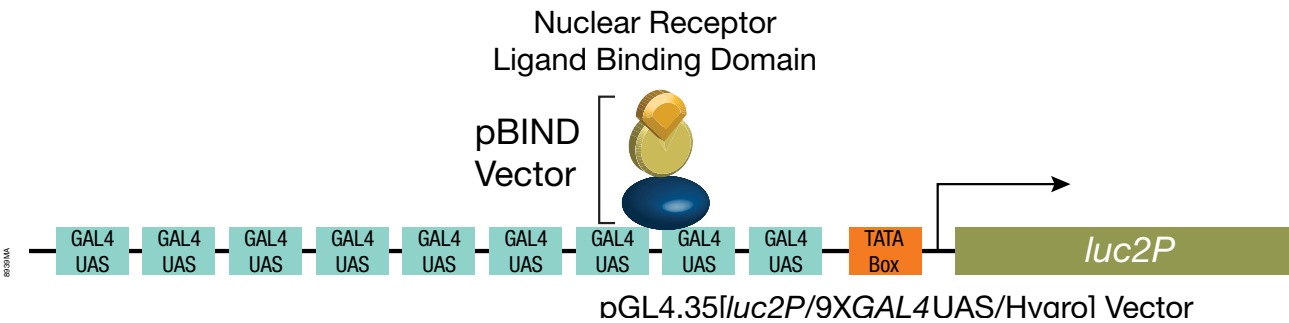
*Harnessing the power  
of bioluminescence to  
understand cellular physiology*

# Nuclear Receptor Assays

Universal nuclear receptor assay for any cell line

No need to have a specific cell line expressing a specific receptor to study a nuclear receptor of interest

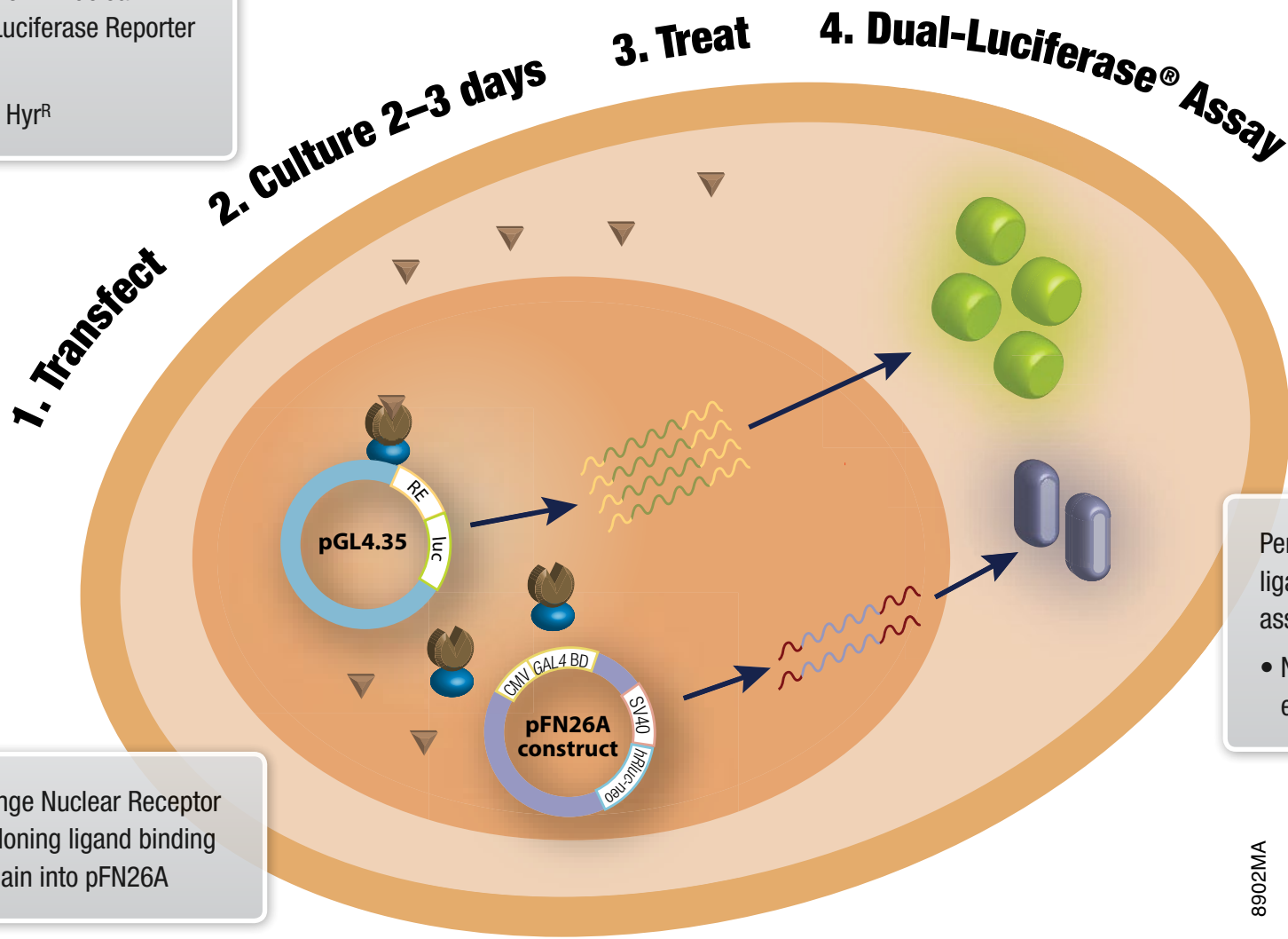
- Method requires only the ligand binding domain which mediates dimerization, corepressor and coactivator binding.
- Method uses a “one-hybrid” system in which a GAL4 binding domain:GAL4 upstream activation sequence (UAS) interaction is combined with the specific nuclear receptor ligand binding domain.
- Method frees you from dependence on the specific response element and allows you to screen for agonists, antagonists, corepressors, coactivators, etc. in any cell line you choose.



# Nuclear Receptor Assay Principle

Make your own Nuclear Receptor Luciferase Reporter Cell line

- pGL4.35 Hyr<sup>R</sup>



Change Nuclear Receptor by cloning ligand binding domain into pFN26A

Perform mutagenesis on the ligand binding domain and assay in your responsive cell.

- No interference from endogenous receptor

8902MA

## Ordering Information

| Vector  | MCS | Luciferase Gene | Selectable Marker | Cat. # |
|---|-----|-----------------|-------------------|--------|
| <a href="#">pGL4.35 [<i>luc2P</i>/9XGAL4UAS/Hygro] Vector</a> | N   | <i>luc2P</i>    | Hygromycin        | E1370  |
| <a href="#">pFN26A (BIND) <i>hRluc</i>-neo Flexi® Vector</a>  | Y   | none            | Neomycin          | E1380  |

### PreDesigned pFN26A-nuclear receptor ligand binding domain Vectors

|  |   |              |          |       |
|--|---|--------------|----------|-------|
| <a href="#">pBIND-ER<math>\alpha</math> Vector</a> | N | <i>hRluc</i> | Neomycin | E1390 |
| <a href="#">pBIND-GR Vector</a>                    | N | <i>hRluc</i> | Neomycin | E1581 |

### pGL4.35-stably-transfected cell line, ready for use

|  |           |              |                          |       |
|--|-----------|--------------|--------------------------|-------|
| <a href="#">GloResponse™ 9XGAL4UAS-<i>luc2P</i> HEK293</a> | Cell Line | <i>luc2P</i> | Selected with Hygromycin | E8530 |
|--|-----------|--------------|--------------------------|-------|

### Mouse mammary tumor virus long terminal repeat; Direct androgen and glucocorticoid response vector

|   |   |              |            |       |
|---|---|--------------|------------|-------|
| <a href="#">pGL4.36[<i>luc2P</i>/MMTV/Hygro] Vector</a> | N | <i>luc2P</i> | Hygromycin | E1360 |
|---|---|--------------|------------|-------|

Products may be covered by pending or issued patents or may have certain limitations. Please visit [www.promega.com](http://www.promega.com) for more information. The method of recombinant Coleoptera luciferases is covered by U.S. patent Nos. 5,583,024; 5,674,713; and 5,700,673.



[TechServ@promega.com](mailto:TechServ@promega.com)



[www.promega.com](http://www.promega.com)

## Related Products

|   | Size       | Cat. # |
|---|------------|--------|
| <b>Renilla Control Vectors</b>  |            |        |
| <a href="#">pGL4.73 [hRluc/SV40] Vector</a>   | 20µg       | E6911  |
| <a href="#">pGL4.74 [hRluc/TK] Vector</a>   | 20µg       | E6921  |
| <a href="#">pGL4.75 [hRluc/CMV] Vector</a>  | 20µg       | E6931  |
| <b>Dual Reporter Assays (larger sizes available)</b>  |            |        |
| <b>Dual-Luciferase® Reporter Assay System</b>   |            |        |
| 5 Step assay requiring lysate production. Use in multi-well plates requires dual-injectors  | 100 assays | E1910  |
| <b>Dual-Glo® Luciferase Assay System</b>  |            |        |
| 2 step assay that lyses cells directly. Use in multiwell plates does not require injectors. | 10ml       | E2920  |
| <b>Rapid, Transfection-Grade Plasmid Preps</b>  |            |        |
| <a href="#">PureYield™ Plasmid Miniprep System</a>  | 100 preps  | A1223  |
| <a href="#">PureYield™ Plasmid Midiprep System</a>  | 25 preps   | A2492  |
| <a href="#">PureYield™ Plasmid Maxiprep System</a>  | 10 preps   | A2392  |
| <b>Transfection Reagent</b>   |            |        |
| <a href="#">FuGENE® HD Transfection Reagent*</a>  | 1ml        | E2311  |
|   | 5 x 1ml    | E2312  |

Dual-Glo, Dual-Luciferase and GloMax are registered trademarks; GloResponse, RapidResponse and PureYield are trademarks of Promega Corporation. HighWire Press is a registered trademark of the Board of Trustees of the Leland Stanford Junior University

\* FuGENE HD is sold only for research use at non-profit entities. See terms of use at [www.promega.com/lul1](http://www.promega.com/lul1)

## More Information

[pGL4.35 \[luc2P/9XGAL4UAS/Hygro\] Vector Product Protocol](#)



[pBIND-ERα Vector Product Protocol](#)



[pBIND-GR Vector Product Protocol](#)



[GloResponse™ 9XGAL4UAS-luc2P HEK293 Technical Manual](#)



[pGL4.36\[luc2P/MMTV/Hygro\] Vector Product Protocol](#)



Paguio, A., et al. (2008) Improvements to luciferase reporter assays for nuclear receptor function. PS065 presented at *Society for Biomolecular Sciences* meeting.



### GloMax® Multi+ Detection System

Need a luminometer?

Go to [www.promega.com/glomax](http://www.promega.com/glomax) to learn more and request a demo

