Nuclear Receptor Assay Tools

pGL4 Luciferase Vectors, Dual-Luciferase® Assays and more...

Harnessing the power of bioluminescence to understand cellular physiology
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

1. Transfect

2. Culture 2–3 days

3. Treat

4. Dual-Luciferase® Assay

Make your own Nuclear Receptor Luciferase Reporter Cell line
- pGL4.35 H̅̃R

Perform mutagenesis on the ligand binding domain and assay in your responsive cell.
- No interference from endogenous receptor

Change Nuclear Receptor by cloning ligand binding domain into pFN26A

Promega
### Ordering Information

<table>
<thead>
<tr>
<th>Vector</th>
<th>MCS</th>
<th>Luciferase Gene</th>
<th>Selectable Marker</th>
<th>Cat. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>pGL4.35 [luc2P/9XGAL4UAS/Hygro] Vector</td>
<td>N</td>
<td>luc2P</td>
<td>Hygromycin</td>
<td>E1370</td>
</tr>
<tr>
<td>pFN26A (BIND) hRluc-neo Flexi® Vector</td>
<td>Y</td>
<td>none</td>
<td>Neomycin</td>
<td>E1380</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Vector</th>
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<th>Selectable Marker</th>
<th>Cat. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>pBIND-ERα Vector</td>
<td>N</td>
<td>hRluc</td>
<td>Neomycin</td>
<td>E1390</td>
</tr>
<tr>
<td>pBIND-GR Vector</td>
<td>N</td>
<td>hRluc</td>
<td>Neomycin</td>
<td>E1581</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>GloResponse™ 9XGAL4UAS-luc2P HEK293</th>
<th>Cell Line</th>
<th>luc2P</th>
<th>Selected with</th>
<th>Cat. #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hygromycin</td>
<td>E8530</td>
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</tbody>
</table>

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

| pGL4.36[luc2P/MMTV/Hygro] Vector | N   | luc2P | 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.*
Related Products

**Renilla Control Vectors**

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Size</th>
<th>Cat. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>pGL4.73 [hRluc/SV40] Vector</td>
<td>20µg</td>
<td>E6911</td>
</tr>
<tr>
<td>pGL4.74 [hRluc/TK] Vector</td>
<td>20µg</td>
<td>E6921</td>
</tr>
<tr>
<td>pGL4.75 [hRluc/CMV] Vector</td>
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<td>E6931</td>
</tr>
</tbody>
</table>

**Dual Reporter Assays (larger sizes available)**

**Dual-Luciferase® Reporter Assay System**

- 5 Step assay requiring lysate production. Use in multi-well plates requires dual-injectors
- 100 assays E1910

**Dual-Glo® Luciferase Assay System**

- 2 step assay that lyses cells directly. Use in multi-well plates does not require injectors.

**Rapid, Transfection-Grade Plasmid Preps**

- PureYield™ Plasmid Miniprep System: 100 preps A1223
- PureYield™ Plasmid Midiprep System: 25 preps A2492
- PureYield™ Plasmid Maxiprep System: 10 preps A2392

**Transfection Reagent**

- FuGENE® HD Transfection Reagent*: 1ml E2311
- 5 x 1ml E2312

More Information

- pBIND-ERα Vector Product Protocol
- pBIND-GR Vector Product Protocol
- GloResponse™ 9XGAL4UAS-luc2P HEK293 Technical Manual

GloMax® Multi+ Detection System

Need a luminometer?
Go to www.promega.com/glomax to learn more and request a demo

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