

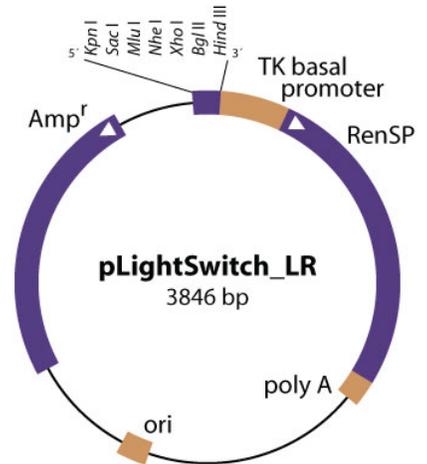
LightSwitch™ Synthetic Response Elements (synthREs)

Catalog Nos: 32100-32119 – Product IDs: S900001-S900120

Concentration: ~30 ng/μl

Quality: OD 260/280 ratio ≥ 1.75

Clone & Vector Information: Each LightSwitch Synthetic Response Element reporter construct contains an optimized synthetic response element, made up of multiple repeats of a transcription factor binding motif, cloned upstream of a basal promoter and the RenSP luciferase reporter gene in the pLightSwitch_LR vector. In some cases these optimized synthREs can provide higher sensitivity to transcription factor activity than the human promoters found in our LightSwitch promoter collection, making them well suited for use in primary screens to identify conditions that affect transcription factor activity. LightSwitch vector maps, annotations, and sequence & primer information are available at www.activemotif.com/lr-vectors. For information about your specific clone, click its **Get Info** link in the Products table found at www.activemotif.com/lr-synth-re.



LightSwitch Assays: Because all LightSwitch Reporter constructs utilize the RenSP luciferase reporter gene, you **MUST** use the LightSwitch Luciferase Assay Kit (Cat. Nos. 32031 & 32032) to perform luciferase assays with all LightSwitch vectors. This kit contains a proprietary substrate that was formulated specifically for use with our engineered RenSP gene. Other luciferase assay reagents are not compatible with RenSP. For more information, visit www.activemotif.com/lr-assay.

Transfection Reagents: We recommend FuGENE® HD Transfection Reagent (Cat. Nos. 32042 & 32043) for all plasmid transfections because it has superior efficiency and low cytotoxicity across a wide variety of cell lines. If you are co-transfecting a plasmid with a short RNA (siRNA or miRNA), we recommend DharmaFECT® Duo (Cat. Nos. 32044 & 32045).

Positive & Negative Controls: We recommend that you include appropriate positive & negative control LightSwitch vectors when you perform your assays. We offer a panel of human housekeeping gene promoters as positive controls. In most cases, the ACTB Promoter Control (Cat. No. 32003) is a suitable positive control. Other housekeeping gene promoters are also available. The empty pLightSwitch_Prom reporter vector can be used to measure background signal.

Single vs. Dual Assay Design: Modern transfection reagents and optimized luciferase assay reagents such as LightSwitch have largely eliminated the need to do a co-transfection control. In most cases, using a dual assay format provides little benefit, while increasing costs and reducing assay sensitivity. Unless you are using a hard-to-transfect cell line, we recommend testing the variation between transfection replicates in a single transfection format. If you wish to do a co-transfection, we offer the LightSwitch Dual Assay Kit (Cat. No. 32035), which has been optimized for use with all LightSwitch reporter vectors. For more information on the pros and cons of co-transfection, please download our Technical Note by entering www.activemotif.com/lr-co-trans into your browser.