



Functional potency assays for the next wave in biologics.

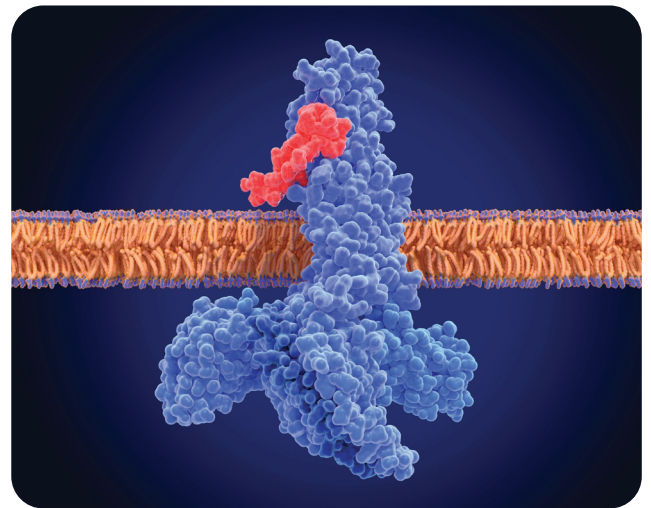
GLP-1 and GIP biosimilars.

Biosimilars are next-generation biologic therapeutics engineered to match the clinical performance of approved reference drugs. Their rise reflects both the maturation of biological science and a growing global imperative to make high-efficacy treatments more widely accessible. As landmark biologic patents expire, an unprecedented wave of RandD activity is already reshaping pipelines worldwide.

Semaglutide (Ozempic®, Wegovy®) and tirzepatide, the GLP-1 and GIP receptor agonists redefining the treatment of obesity and type 2 diabetes, are now entering biosimilar territory. With semaglutide patent expiries already underway across key markets in 2026, the scale of molecules entering development pipelines is unprecedented.

The science behind the signal

GLP-1 and GIP receptors signal through Gs-coupled pathways, driving intracellular cyclic AMP (cAMP) accumulation, the primary molecular mechanism underlying insulin secretion, glucoregulation, and weight modulation. For biosimilar developers, a validated cell-based cAMP functional potency assay is the regulatory cornerstone of any comparability and biosimilarity data package.

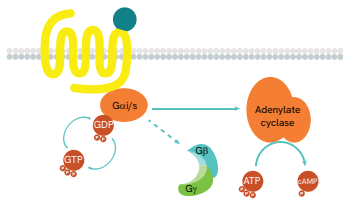


Revvity assay spotlight

Revvity's HTRF™ and pHsense™ platforms are purpose built to answer this question, delivering sensitive, no-wash, homogeneous cAMP detection, Endogeneous beta-arrestin recruitment, and straightforward internalization assays for GLP1R and GIPR agonist profiling and characterization.

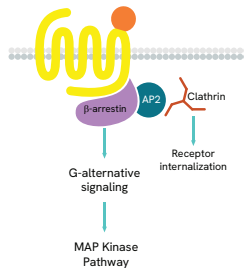
cAMP Gs assay

Functional assays for the detection of Gs-coupled receptors. Essential and thoroughly validated and published for the profiling of GLP1R and GIPR agonists.



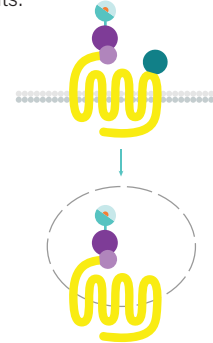
β-arrestin assays

Arrestin assays to characterize ligand bias and alternative signaling in cells expressing homogeneous levels of β-arrestin. Essential to the profiling of Tirzepatide biosimilars.



Internalization assays

pHSense offers direct and indirect internalization assays. Our finely tuned pH-sensitive probes are minimally fluorescent at extracellular pH, and strong long-lived signal in acidic cellular compartments.

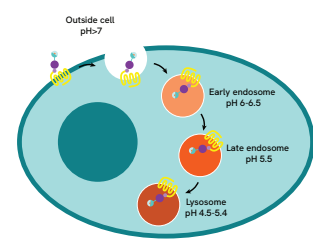
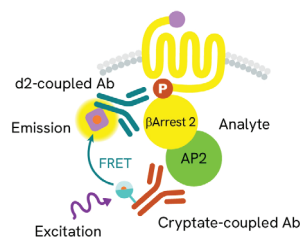
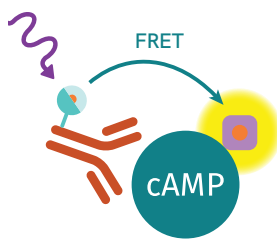


Validated for biosimilar characterization

GLP1R agonists
(Semaglutide biosimilar)

GLP1R and GIPR dual agonists (Tirzepatide biosimilar)

Assay principle



Technology

HTRF

- Direct functional readout of GLP-1R and GIPR Gs-pathway activation
- No-wash, homogeneous format – minimizes variability, maximizes reproducibility
- 96- and 384-well compatible; automation-ready for high-throughput lot comparisons
- Bead-based proximity detection with wide dynamic range; available in formats from early development to QC lot release
- No-wash workflow; compatible with complex cell matrices
- Scalable from potency profiling through regulatory-grade comparability studies

pHSense

- Time-resolved internalization
- No-wash protocol
- High-throughput ready
- Validation across suspension and adherent cells

Products

Name	Number
HTRF cAMP Gs Dynamic	62AM4PEB
HTRF cAMP Gs HiRange	62AM6PEB

Name	Number
HTRF β-Arrestin 2 recruitment	62BDBAR2PEB
HTRF Total β-arrestin 1	64BAR1TPEB
HTRF Total β-arrestin 2	64BAR2TPEB
HTRF Total AP2	64AP2TPEB

Name	Number
pHSense SNAP labeling Reagent	81SNEU1AA
pHSense Anti-Flag	81FL1EU1AA
pHSense Fab Anti-Mouse IgG1	81MO1EU1AA
pHSense Fab Anti-Mouse IgG1	81MO2EU1AA

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