Take the Stress Out of Functional Testing

AequoZen and cAMPZen ready-to-use cells

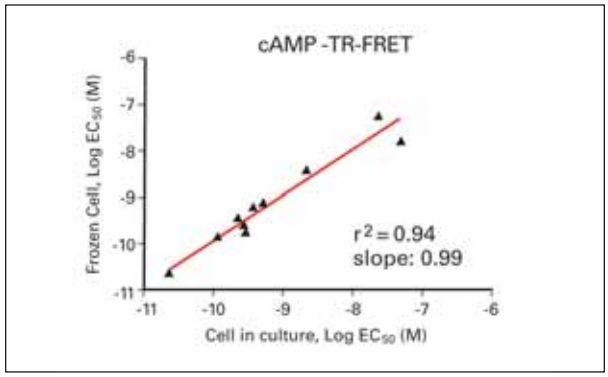
PerkinElmer's validated, ready-to-use AequoZen™ or cAMPZen™ frozen, irradiated cells make it easier for you to perform functional testing of GPCRs. Just thaw and use! Reliable, convenient AequoZen cells for aequorin calcium testing or cAMPZen cells for cAMP testing let you get the testing done. So you can concentrate on results.

What are FroZen cells?

PerkinElmer removes the lengthy process of cell culture from your functional testing by doing the cell preparation work for you. That means we will culture the cells, freeze them using an optimized protocol, and irradiate them with gamma rays to stop all replication. You store your cells in a -80 °C freezer or in liquid nitrogen until you are ready to use them. Then simply thaw and use directly in a functional, cellular GPCR test with previously validated performance.

PerkinElmer will:

- **Provide validated cells** that are ready-to-use for cAMP or calcium testing.
- **Irradiate the cells** to prevent growth and reduce variability.
- **Scale-up production** of cells for your screening needs.



Performance comparison between fresh and FroZen cells in a TR-FRET cAMP assay. Correlation between EC_{50}s of reference agonist on fresh versus FroZen cells with a TR-FRET cAMP readout on 11 receptors.

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PerkinElmer®
precisely.

Why are FroZen cells so special? Validation, Flexibility and Convenience.

Validation

- Completely validated for assay protocol performance, frozen storage, and stability at -80 °C for safe shipment worldwide.
- Complete, step-by-step protocol provided: guides you each step of the way to get great results.
- Each batch is validated to our QC criteria (both on EC_{50} and window): you can get the same reliable results with every purchase, every time.

Flexibility

- Perform selectivity studies rapidly and cost-effectively with our off-the-shelf validated defined families of GPCRs.
- Perform cellular GPCR tests using FroZen cells on multiple receptors at a time, for screening, lead optimization or profiling.
- Available in off-the-shelf aliquots of 1 to 10 million cells per vial.
- Scale-up batches available to provide you with validated cells for full screening campaigns.

Convenience

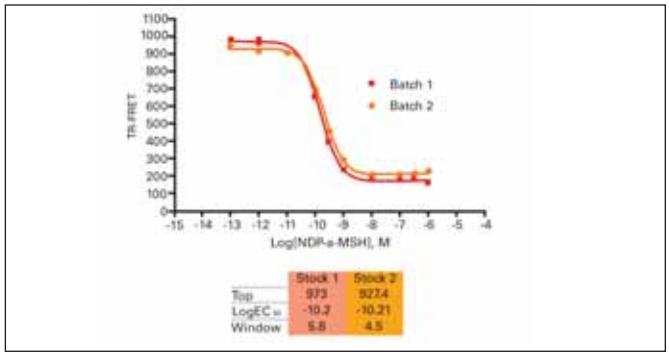
- Priced on a per-unit basis: you only pay for the cells that you need.
- Growth-arrested by irradiation: you can better standardize cell numbers following overnight incubation in plates, thus avoiding plate artifacts.
- No traces of hazardous chemicals in the cell media.
- Titrated to preserve functional response.

FroZen cells—your solution to the stress of functional testing.

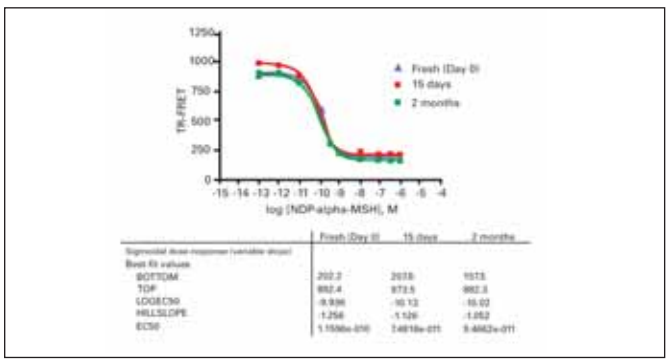
Functional screens and tests to evaluate GPCRs of therapeutic interest have assumed a larger share of GPCR assays for Drug Discovery in recent years. The pressure on you to obtain reliable and robust results, quickly, is greater than ever.

PerkinElmer provides the help you need with HTS-friendly, homogeneous and robust platforms and kits for the detection of most $G\alpha_i$-, $G\alpha_s$- and $G\alpha_q$- coupled GPCRs and second messengers. These include our LANCE® TR-FRET for cAMP, Flash-Plate or DELFIA™ technology for GTPγS, and luminescence-based "lite" kits for gene reporter assays. Additionally, our AlphaScreen® Surefire ERK technology can measure endogenous phospho-ERK. Our new AequoScreen and AequoZen reagents enable use of luminescence technology for calcium testing. These methods have improved the detection side of functional testing. As a result, the main source of variability in obtaining GPCR functional data is the biological material.

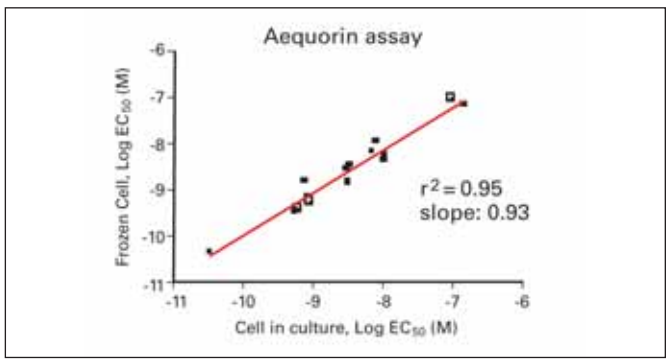
Optimized and standardized culture conditions, even for particularly sensitive GPCRs, eliminate variability in sensitivity and response amplitude between different batches of cells. Plus, prevalidation is done for you. You avoid wasting time and money on failed batches. You'll never have to cancel or delay a scheduled testing campaign again!



Batch-to-batch consistency. Comparison of the performance of two batches of MC_4 cells with a TR-FRET cAMP test.



Stability testing using cAMP TR-FRET test on MC_4 cells. Comparison of fresh cultured cells with FroZen cells preparation after 15 days and 2 months storage at -80 °C.



Performance comparison between fresh and FroZen cells in an Aequorin assay. Correlation between EC_{50}s of reference agonist obtained on fresh versus FroZen cells with an aequorin readout on 15 receptors.

Ordering information

AequoZen FroZen Cell Lines

Receptor	Sub-Type	Product No. cAMPZen	Product No. AequoZen
Adenosine	Adenosine A_3, Human Recombinant, CHO-K1		ES-012-AF*
Adrenergic	Adrenergic β_1, Human Recombinant,CHO-K1	ES-033-CF	ES-033-AF
	Adrenergic β_2, Human Recombinant, CHO-K1	ES-034-CF	
	Adrenergic β_3, Human Recombinant, CHO-K1	ES-035-CF	
Anaphylatoxin	Anaphylatoxin $C3_a$, Human Recombinant, CHO-K1	ES-730-CF*	
	Anaphylatoxin $C5_a$, Human Recombinant, CHO-K1	ES-731-CF*	ES-731-AF*
Chemokine	Chemokine CCR2b, Human Recombinant, CHO-K1		ES-133-AF*
	Chemokine CCR3, Human Recombinant, CHO-K1		ES-138-AF*
	Chemokine CCR6, Human Recombinant, CHO-K1		ES-139-AF
	Chemokine CCR7, Human Recombinant, CHO-K1	ES-140-CF*	ES-140-AF*
	Chemokine CCR8, Human Recombinant, CHO-K1		ES-136 AF*
	Chemokine CCR9a, Human Recombinant, CHO-K1		ES-146-AF
	Chemokine CCR10, Human Recombinant, CHO-K1		ES-143-AF
	Chemokine CX_3CR1, Human Recombinant, CHO-K1		ES-137-AF*
	Chemokine CXCR2, Human Recombinant,CHO-K1		ES-145-AF
	Chemokine CXCR3, Human Recombinant, CHO-K1		ES-142-AF*
	Chemokine CXCR6, Human Recombinant, CHO-K1	ES-720-CF*	ES-720-AF*
	Chemokine XCR1, Human Recombinant, CHO-K1		ES-148-AF
Dopamine	Dopamine D_1, Human Recombinant, CHO-K1	ES-172-CF	
Endothelin	Endothelin ET_A, Human Recombinant, CHO-K1		ES-320-AF*
	Endothelin ET_B, Human Recombinant, CHO-K1		ES-321-AF
GABA	$GABA_{B1A/B2}$, Human Recombinant, CHO-K1	ES-500-CF*	
Galanin	Galanin GAL_1, Human Recombinant, CHO-K1	ES-510-CF	
	Galanin GAL_2, Human Recombinant, CHO-K1		ES-511-AF*
Ghrelin	Ghrelin, Human Recombinant, CHO-K1		ES-410-AF*
Histamine	Histamine H_1, Human Recombinant, CHO-K1		ES-390-AF
	Histamine H_2, Human Recombinant, CHO-K1	ES-391-CF	ES-391-AF
	Histamine H_3, Human Recombinant, CHO-K1	ES-392-CF*	ES-392-AF*
Melanin-Concentrating Hormone	Melanin-Concentrating Hormone MCH_1 Human Recombinant, CHO-K1		ES-370-AF*
	Melanin-Concentrating Hormone MCH_2 Human Recombinant, CHO-K1		ES-371-AF*
Melanocortin	Melanocortin MC_1, Human Recombinant, CHO-K1	ES-195-CF*	
	Melanocortin MC_3, Human Recombinant, CHO-K1	ES-193-CF	
	Melanocortin MC_4, Human Recombinant, CHO-K1	ES-191-CF	
	Melanocortin MC_5, Human Recombinant, CHO-K1	ES-194-CF*	
Melatonin	Melatonin MT_2, Human Recombinant, CHO-K1		ES-621-AF*
Muscarinic	Muscarinic M_1, Human Recombinant, CHO-K1		ES-210-AF
	Muscarinic M_2, Human Recombinant, CHO-K1		ES-211-AF
	Muscarinic M_4, Human Recombinant, CHO-K1		ES-213-AF
	Muscarinic M_5, Human Recombinant, CHO-K1		ES-214-AF
Prostanoid	Prostanoid DP, Human Recombinant, 1321N1	ES-560-CF*	
Thyroid Releasing Hormone	Thyroid Releasing Hormone TRH1, Human Recombinant, CHO-K1		ES-700-AF
Vasopressin	Vasopressin V_2, Human Recombinant, 1321N1	ES-363-CF	

**Restricted for sale in the USA. Please check with your PerkinElmer Representative for the most up-to-date list of restrictions.*

Our cAMPZen and AequoZen cells are ready-to-use, irradiated cells that have been pre-validated with cAMP TR-FRET for cAMP detection (cAMPZen) or Aequorin for calcium detection (AequoZen).

Cells can be ordered in aliquotes of 1 million cells/vial (cAMPZen) or 10 million cells/vial (AequoZen) for small studies or profiles. Moreover, we can also accommodate for larger amounts with a customized service. If the target you require is not listed, please inquire as we are continuously expanding our offering.

For more information contact your local PerkinElmer Sales Representative or call 800-762-4000.

Try our LANCE cAMP TR-FRET technology for your cAMP measurements.

PerkinElmer's LANCE cAMP Assay Kit is an innovative combination of technologies that results in a markedly superior cAMP screening assay for use with whole cells or membranes. It combines HTS-proven homogenous LANCE TR-FRET technology with red-shifted Alexa Fluor® dye chemistry for maximum excitation/emission discrimination. The result is a TR-FRET assay with minimal compound interference. You can read longer without accumulating background signal to maximize S/N and Z' values.

- **High sensitivity**: fmol detection of cAMP, leading to improved performance and productivity.
- **High precision**: Z' values of 0.8 or better for both $G\alpha_i$ and $G\alpha_s$ cellular assays.
- **Easy to Automate**: automation-friendly reagents and simple one-step protocol (following cell stimulation).
- **Read on any TRF-compatible instrument** such as PerkinElmer's ViewLux™, EnVision™ and VICTOR^3™ readers.
- **Stable Signal**: >20 hours at room temperature; ideal for HTS campaigns.
- **Ultra HTS-compatible**: simple conversion between 96-, 384- or 1536-well plate formats results in dramatic savings.

For more information on LANCE cAMP go to www.perkinelmer.com/lancecamp

Why go anywhere else?

With the world's most extensive line of GPCR assay technologies and reagents—even for your toughest GPCR screens—plus proven instrumentation and application-specific microplates, PerkinElmer has everything you need for your cell-based and biochemical GPCR research and drug discovery:

- **AequoScreen cell lines**: fresh propagatable aequorin cell lines expressing mitochondrially- targeted apoaequorin with or without the promiscuous G protein $G\alpha_{16}$.
- **GPCR cell lines and membranes**: the largest collection available for functional and binding assays.
- **LANCE cAMP assay**: highly sensitive and precise solution for cAMP screening.
- **AlphaScreen *SureFire* ERK assay**: cellular-phospho ERK detection assay for generic analysis of GPCR targets, ideal for $G\alpha_q$ and $G\alpha_i$ targets (for use with our EnVision™ Multilabel Reader with Alpha module).
- **Luminescence-based britelite™ plus and steadylite™ plus gene reporter assays**: fast, simple and cost-effective cellular screening for all GPCR targets (and all luminometers including our TopCount® and MicroBeta® Scintillation and Luminescence Counters).
- **NEN® Radioligands**: the world's most extensive range of highest quality tritiated and iodinated ligands.

Why go anywhere else? For more information, visit us at www.perkinelmer.com/drugdiscovery or contact us at 1-800-762-4000.

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