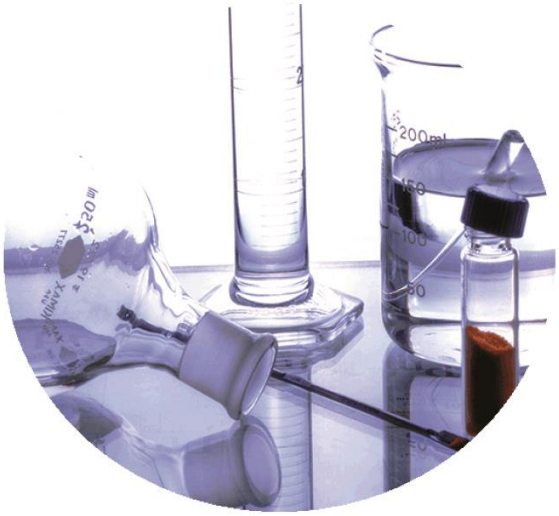

Transfection tools

GeneBlaster™ Emerald Kit

Protocol

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IMPORTANT NOTES – Before you begin

The **GeneBlaster Emerald** is the latest formulation of additives that significantly improve the number of transfected neurons and the gene expression level obtained with any viral and non-viral gene delivery systems such as Magnetofection™ (NeuroMag or CombiMag) or DreamFect™ Gold transfection reagents.It is suitable with all commercially available transfection reagents. The application of the GeneBlaster Emerald is specific to primary neurons.

GeneBlaster Emerald is extremely easy to use: simply add the appropriate volume to your culture medium and boost neuronal transfection efficiency.

- Rapid and easy to use
- Highest gene expression in primary neurons
- Prolong in vitro gene expression
- Compatible with all transfection reagents including Magnetofection™.
- Effective for transient transfection and long lasting transfection
- Economical

For additional information and protocols (optimization, scaling, co-transfection…) tips, troubleshooting or other applications

www.ozbiosciences.com

Any questions?

tech@ozbiosciences.com

Package content	GB20014 GeneBlaster Emerald: 3 x 1.5 mL Each vial of the GeneBlaster Emerald Reagent (1.5 mL) is provided at a 25X concentration and is sufficient for 75 transfections using 0.5 mL transfection volume. The Kit contains three vials of reagents and allows performing at least 225 assays.
Shipping conditions	The GeneBlaster Kits are shipped at room temperature
Storage conditions	Upon receipt and for long-term use, store all reagent tubes at -20oC. GeneBlaster Emerald is stable for at least one year at -20oC.
Shelf life	1 year from the date of purchase when properly stored and handled
Important notice	For research use only. Not for use in diagnostic procedures.

Applications

GeneBlaster Emerald helps to achieve higher and longer levels of transgene expression in primary neurons. Since the GeneBlaster Emerald reagent is composed of additives; they could activate neurons for the first 24 hours. Thereafter, the reagent is eliminated by the cells within 24h (see §3.3 Important remarks) and consequently, do not affect cellular toxicity.

The level of gene expression enhancement and persistence mediated by the GeneBlaster Emerald reagent might be neuron type dependent. This formulation has been successfully tested on primary Hippocampal and Cortical neurons from rat embryos. Likewise, these formulations have successfully trans-activated a variety of gene expression under the control of various promoters (CMV, SV40, Ubiquitin, HIV LTR, EF1a, etc.).

Protocols

1. General Considerations

- Gene Blaster Emerald should be stored at -20°C, bring it up to room temperature. Briefly vortex the reagent before each use.
- Dilute the GeneBlaster Emerald reagent 25 times directly in the culture medium.

The instructions given below represent sample protocols that were applied successfully with different neurons. They can be used as guidelines to achieve very high gene expression level with minimal times. Optimal conditions do vary from cell culture to cell culture, promoter to promoter and the final dilution of the GeneBlaster Reagents might have to be adjusted to achieve best results. Therefore, we advise you to optimize few trans-activation parameters (concentration, incubation time, medium change…) if necessary.

2. General Protocol

GeneBlaster Emerald is a life compatible-non cytotoxic reagent designed for enhancing neuron transfection efficiency. It is recommended to dilute Emerald Reagent in the culture medium one hour before your transfection experiment. Depending on the neuron type and the cell culture density, dilution might be optimized in order to gain the best augmentation efficiency. No Medium changes is required after stimulation, moreover, GeneBlaster Emerald is particularly suitable with NeuroMag transfection reagents which neither needs medium change.

1. Bring GeneBlaster Emerald at room temperature before use it.
2. Dilute Emerald reagent 25 times in the culture medium, one hour before transfection experiment. Gently, rock the plate to ensure proper dilution.
3. Incubate one hour at 37°C.
4. Prepare the DNA/transfection reagent complexes according to the manufacturer's instruction or the viral titers as standard. To gain the best efficiency in neuron transfection we recommend using NeuroMag transfection reagent in association with GeneBlaster Emerald.

5. Add the complexes or viruses onto the cells growing in serum-free or serum-containing medium as standard culture conditions or as suggested by the manufacturer's protocol.
6. Cultivate the cells under standard conditions until evaluation of gene expression. The gene expression analysis can be monitored and assayed 24 to 72 hours following transfection or infection. This depends on the neuron type, reporter gene and promoter activity.

3. Important Remarks

Although the team of OZ Biosciences has carefully designed and optimized the GeneBlaster Emerald formulation for a number of cells, additional adjustment and optimization might be required for different cell density to avoid undesired effect and to enhance gene expression level after transfection or infection. We advise testing various dilutions of the GeneBlaster from 12.5X to 100X dilutions to attain the best results.

NOTES

NOTES

Additional products

- **GeneBlaster™ Ruby:** developed for adherent cells
- **GeneBlaster™ Sapphire:** developed for adherent cells, complementing the Ruby one.
- **GeneBlaster™ Topaz:** developed for suspension cells, especially hematopoietic cells.

Purchaser Notification

Limited License
The purchase of the GeneBlaster™ Emerald Kit grants the purchaser a non-transferable, non-exclusive license to use the kit and/or its separate and included components (as listed in this protocol). This reagent is intended for in-house research only by the buyer. Such use is limited to the transfection of nucleic acids as described in the product manual. In addition, research only use means that this kit and all of its contents are excluded, without limitation, from resale, repackaging, or use for the making or selling of any commercial product or service without the written approval of OZ Biosciences. Separate licenses are available from OZ Biosciences for the express purpose of non-research use or applications of the GeneBlaster™ Emerald Kit. To inquire about such licenses, or to obtain authorization to transfer or use the enclosed material, contact us at OZ Biosciences. Buyers may end this License at any time by returning all GeneBlaster™ Emerald Kit reagents and documentation to OZ Biosciences, or by destroying all D-Luciferin components. Purchasers are advised to contact OZ Biosciences with the notification that a GeneBlaster™ Emerald Kit is being returned in order to be reimbursed and/or to definitely terminate a license for internal research use only granted through the purchase of the kit(s). This document covers entirely the terms of the GeneBlaster™ Emerald Kit research only license, and does not grant any other express or implied license. The laws of the French Government shall govern the interpretation and enforcement of the terms of this License.

Product Use Limitations
GeneBlaster™ Emerald Kit and all of its components are developed, designed, intended, and sold for research use only. They are not to be used for human diagnostic or included/used in any drug intended for human use. All care and attention should be exercised in the use of the kit components by following proper research laboratory practices.

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