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Neurog3$^{RG.BAC}$ - ES Cell Line RES4536

ESC Line Information

Cell Line Name:	Neurog3$^{RG.BAC}$
Parental Cell Line:	TL-1
Background Strain:	129
Culturing Protocol:	Std_mESC_Culture.doc
Description:	This line has a single copy of Neurog3.RG.LCA BAC transgene inserted in the genome. The transgene is designed to express an H2B-mCherry fusion protein in the nucleus and a membrane anchored EGFP (via GPI), both under the control of the Neurog3 promoter. This will allow for live-cell imaging of mitotic nuclear/chromosome dynamics and membrane protrusive behavior in endocrine progenitors. Additionally, Lox71 and Lox2272 sites flanking the transgene will allow for manipulations by RMCE in the future.

Genetic Alterations

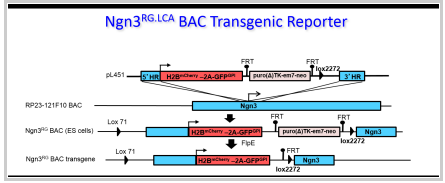
1) BAC or Transgene Insertion	
Type of Vector	BAC
BAC Clone Number	121F-10
BAC Resource Library	RPCI-23
Promoter	Neurogenin 3 (Neurog3 - MGI:11925)
Expressed Gene	H2B-mCherry-peptide2a-EGFP-GPI (RG)
Description of Transgene	Using homologous recombination, an H2BmCherry-2A peptide-GFP-GPI (abbreviated as "Ngn3RG") fusion cassette, with an FRT-flanked puroR-ΔTK selection cassette and downstream lox2272 site, were inserted in front of the Ngn3 translational start site in the RP23-121F10 BAC. The peptide 2A breaker sequence allows the co-translational cleavage of multiple polypeptides from a common protein-coding region. A lox71 site was inserted, via GalK selection, into an unconserved region 5' of the Ngn3 transcriptional start site. The lox71 and lox2272 sites will allow the BAC transgene to serve as a loxed cassette acceptor (LCA) in ES cells for future recombinase-mediated cassette exchange (RMCE).
Vector Genbank File	pBACe3_6RP23_121F10_Ngn3RG.gb

Citations

PubMedID	Citation
19813259	Dual fluorescent protein reporters for studying cell behaviors in vivo. (2009) *Genesis* **47**: 708-17 (Added 2013-05-28 13:23:06.116991)

Associated Images

Image 1



Description:
Mouse ES cells that express Ngn3RG under control of Ngn3 were made by inserting the Ngn3RG fusion cassette into a Neurog3 BAC (clone RPCI-23 121F10) by BAC recombineering, and then electroporating the modified BAC clone into mESCs. mESC

Access Status

This resource is publicly viewable.

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Primary contributor: **Wright Lab**
Co-contributed by:
- BCBC Mouse / ES Cell Core

Resource Tags

embryonic, es, esc, Neurog3$^{RG.BAC}$, stem, TL-1

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Resource History & Actions

Approved on Oct 09, 2012
Last modified on Apr 11, 2014

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Data courtesy of dkCOIN. Only public resources are displayed.

clones surviving chemical selection were screened to identify clones containing single copy intact BAC insertion and designated as Neurog3.RG.LCA (Loxed Cassette Acceptor) transgenic mESCs.

Reference:
Not provided

Repositories

Wright Lab

Request this resource

Stock #: *Not provided*
Availability Notes: *Not provided*

Contact Information

Preferred Contact

Name	Chris Wright
Institution	Vanderbilt University
Phone	615-343-8256
Email	chris.wright@vanderbilt.edu

Associated Publications

No publications associated

Comments

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