

**PRODUCT DATA SHEET**
**PRODUCT NAME:** pMCS minP-Tluc16-DD

**PRODUCT NUMBER:** 88232

**LOT NUMBER:** \*\*\*\*\*

**Amount:** 10µg (0.5µg/µL)

**Shipping conditions:** Shipped on ice packs

**Storage:** -20°C

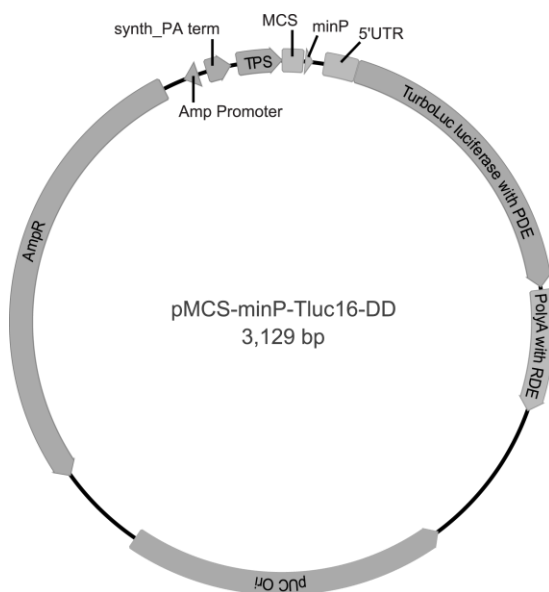
**Storage buffer:** 10mM Tris-HCl, pH 8.5

**Quality control:**
 $A_{260}/A_{280} \geq 1.8$ 

Identity: Sequence verified

Restriction enzyme digestion results in expected banding pattern on 1.0% agarose.

**Description:** The Thermo Scientific™ pMCS minP-Tluc16-DD Vector is a transcriptional reporter vector that encodes the smallest known luciferase, Thermo Scientific™ TurboLuc™ Luciferase (Tluc16), as the reporter. The vector contains the multiple cloning sites (MCS) and a core minimal promoter (minP) upstream of the reporter gene for the insertion of regulatory elements lacking a promoter activity. Tluc16 is novel 16kDa intracellular luciferase derived from the marine copepod *Metridia* luciferase family. The wild-type luciferase has been modified to reduce its size, increase brightness and express intracellularly. The Tluc16 luciferase expression vector also contains the patented dual-destabilization technology (DD) that reduces accumulation of the Tluc16 mRNA and Tluc16 protein in cells, enhancing the responsiveness of the assay. A Synthetic PolyA terminator and a Transcriptional Pause Site (TPS) are included upstream of MCS to minimize nonspecific transcriptional read-through. Tluc16 luciferase activity can be measured using the Thermo Scientific™ TurboLuc™ One-Step Glow Assay Kits (Product Nos. 88263 and 88264).



The following features are present in the vector based on the nucleotide sequence:

Multiple Cloning Site (MCS)	1-41
minP region (minimal core promoter)	45-60
Optimized 5' UTR*	80-144
TurboLuc Luciferase Gene with PDE <sup>†</sup>	145-717
RNA-DE <sup>‡</sup> and modified poly(A) signal	721-954
pUC replication origin (pUC Ori)	1863-1244
Amp <sup>R</sup> Promoter	2966-2938
Beta-lactamase (Amp <sup>R</sup> ) gene	2896-2036
Synthetic PolyA terminator	2983-3029
Modified Transcriptional Pause Site (TPS)	3043-3129

\* Optimized 5' UTR region contains RNA-DE for improved response and Kozak for efficient expression of Tluc16

<sup>†</sup>PDE: Protein destabilization element

<sup>‡</sup>RNA-DE (RDE): RNA-destabilization elements

**Figure 1. Thermo Scientific pMCS minP-Tluc16-DD Vector map and features.** Nucleotide sequence information for the pMCS minP-Tluc16-DD vector is available online at: [lifetechnologies.com](http://lifetechnologies.com)

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### MCS Sequence Details:



### Note:

- Restriction digestion using BsmBI generates ends compatible with HindIII enzyme restriction site
- Restriction digestion using Acc651 and BsiWI generates compatible ends
- SmaI, BglII or HindIII can be used in combination with any restriction enzymes 5' of minP to clone-in a natural promoter or to remove minP

### Primers for Sequencing:

Location	Sequence	Direction
3040-3055	GTCTCACTAGGATCG	Forward
188-168	AGTTTCTTCCCTGGCAGCTT	Reverse

**Limited Use Label License: Thermo Scientific TurboLuc™ (Tluc) Luciferase Gene Products for qIP Protein Interaction (Thermo Scientific Product Nos. 82017, 82018, 82019, 82020, 82023, 82024, 82025, 82026, 82028, 82029, 82031) and One-Step Glow Assay (Thermo Scientific Product Nos. 88231, 88232, 88235, 88236, 88241, 88246, 88247, 88248, 88249, 88255, 88256)**

This product is covered by applicable patents and patent applications and foreign counterparts. The purchase of this product conveys to the buyer the non-exclusive, non-transferable right to use the purchased amount of the product and components of the product in research conducted by the buyer (whether the buyer is an academic or for-profit entity). This product is sold under license from GeneStream Private Limited.

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In addition, the buyer shall:

This product ("Product") is warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Product documentation, specifications and/or accompanying package inserts ("Documentation") and to be free from defects in material and workmanship. Unless otherwise expressly authorized in writing, Products are supplied for research use only. No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the original purchaser of the Product ("Buyer").

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**PRODUCT DATA SHEET**

(a) only use the Thermo Scientific TurboLuc™ (Tluc) Luciferase gene products listed in Group A in the table below with the Thermo Scientific Pierce qIP Protein Interaction reagents listed in Group B in the table below, and vice-versa, for determinations of Tluc luciferase activity:

<b>Group A: TurboLuc™ Luciferase gene products for qIP</b>
Product No. 82017: pCMV MCS N-HA
Product No. 82018: pCMV MCS C-HA
Product No. 82019: pCMV MCS N-Myc
Product No. 82020: pCMV MCS C-Myc
Product No. 82023: pCMV MCS N-Tluc
Product No. 82024: pCMV MCS C-Tluc
Product No. 82025: pCMV RFP C-HA
Product No. 82026: pCMV RFP C-Myc
Product No. 82028: pCMV BAD C-HA
Product No. 82029: pCMV BAD C-Myc
Product No. 82031: pCMV Bcl-xL N-Tluc
<b>Group B: qIP Protein Interaction reagents</b>
Product No. 82013: Pierce™ qIP Protein Interaction Buffer L (1X)
Product No. 82014: Pierce™ qIP Protein Interaction Buffer D (10X)
Product No. 82015: Pierce™ qIP Protein Interaction Tluc Assay Reagents
Product No. 82016: Pierce™ qIP Protein Interaction Tluc Assay Reagents
Product No. 82032: Pierce™ Agarose qIP Protein Interaction Kit, Tluc and HA Tags
Product No. 82033: Pierce™ Agarose qIP Protein Interaction Kit, Tluc and Myc Tags
Product No. 82035: Pierce™ Magnetic qIP Protein Interaction Kit, Tluc and HA Tag
Product No. 82036: Pierce™ Magnetic qIP Protein Interaction Kit, Tluc and Myc Tag

(b) only use the Thermo Scientific TurboLuc™ Luciferase One-Step Glow Assay gene products listed in Group C in the table below with the TurboLuc™ Luciferase One-Step Glow Assay reagents listed in Group D in the table below, and vice-versa, for determinations of Tluc luciferase activity:

<b>Group C: TurboLuc™ Luciferase One-Step Glow Assay gene products</b>
Product No. 88231: pMCS Tluc16-DD
Product No. 88232: pMCS minP-Tluc16-DD
Product No. 88235: pMCS Tluc16
Product No. 88236: pMCS minP-Tluc16
Product No. 88241: pEF1α Tluc16-DD
Product No. 88246: pNFκB Tluc16-DD
Product No. 88247: pCRE Tluc16-DD
Product No. 88248: pMCS Tluc16-DD Hygro
Product No. 88249: pMCS minP-Tluc16-DD Hygro
Product No. 88255: pMCS Tluc16 Hygro
Product No. 88256: pMCS minP-Tluc16 Hygro
<b>Group D: TurboLuc™ Luciferase One-Step Glow Assay reagents</b>

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**PRODUCT DATA SHEET**

Product No. 88263: TurboLuc™ Luciferase One-Step Glow Assay Kit
Product No. 88264: TurboLuc™ Luciferase One-Step Glow Assay Kit

or

(c) contact [proteomics.licensing@thermofisher.com](mailto:proteomics.licensing@thermofisher.com), Pierce Biotechnology, Inc., 3747 North Meridian Road, Rockford, IL 61101, in order to obtain a license to use this product with reagents other than those set forth in subsections (a) or (b) above.

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