

WB-Validated P4HB Lentiviral shRNA Knockdown Kit



Catalog #: V61460

Aliases

P4HB; Prolyl 4-Hydroxylase Subunit Beta; PDIA1; PDI; P4Hbeta; ERBA2L; PROHB; PO4HB; PO4DB; DSI; GIT; Procollagen-Proline, 2-Oxoglutarate 4-Dioxygenase (Proline 4-Hydroxylase), Beta Polypeptide; Protein Disulfide Isomerase Family A, Member 1; Protein Disulfide Isomerase-Associated 1; Cellular Thyroid Hormone-Binding Protein; Prolyl 4-Hydroxylase, Beta Polypeptide; Collagen Prolyl 4-Hydroxylase Beta; Protein Disulfide-Isomerase; EC 5.3.4.1; P55; Procollagen-Proline, 2-Oxoglutarate 4-Dioxygenase (Proline 4-Hydroxylase), Beta Polypeptide (Protein Disulfide Isomerase; Thyroid Hormone Binding Protein P55) ; Procollagen-Proline, 2-Oxoglutarate 4-Dioxygenase (Proline 4-Hydroxylase), Beta Polypeptide (Protein Disulfide Isomerase-Associated 1); Protein Disulfide Isomerase/Oxidoreductase; Glutathione-Insulin Transhydrogenase; Thyroid Hormone-Binding Protein P55; Testicular Secretory Protein Li 32; Procollagen Hydroxylase; CLCRP1; PHDB

Background

Gene Name: P4HB

NCBI Gene Entry: [5034](#)

Storage

Store at -80 °C for one year.

Kit Components

1. WB-Validated P4HB shRNA lentiviral particles (4 mL)
2. Non-Target shRNA lentiviral particles (4 mL)
3. Verification Tool: KD-Validated Anti-Prolyl 4-hydroxylase subunit beta Rabbit mAb #61460 (5 µL)

Tested Cell Line

HT-1080

Validation Methods

RT-qPCR; Western Blotting (WB)

Shipping

Shipped with dry ice. Immediately store the product in a standard freezer at -80°C upon receipt.

Instructions For Use

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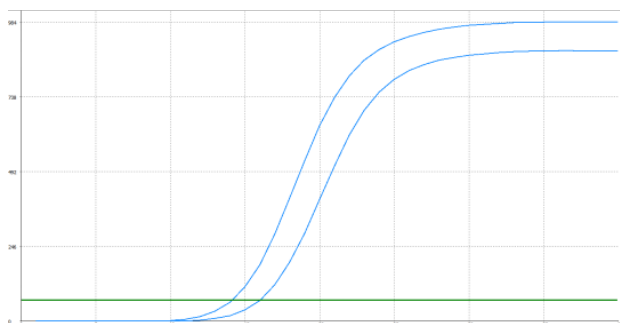
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The following protocol uses HT-1080 cell as an example assuming your cell culture medium is DMEM-based.

1. Release 0.5 million HT-1080 cells into a 35 mm tissue culture dish in 2 mL of the growth medium (DMEM containing 10% FBS and 1% pen/strep). Cell density should reach 50-60% confluence the following day.
2. 24 h after cell release, pre-warm the shRNA lentiviral medium to 37°C.
3. Discard 1 mL of the original growth medium of the 35 mm dish.
4. Using a serological pipette, gently mix the lentiviral solution 3 times.
5. Carefully add 1 mL of the lentiviral solution to the well. Tip: To prevent splashing, add the solution to the dish along the wall.
6. Add a polybrene stock solution to the culture medium at a final concentration of 5 µg/mL. Gently swirl the dish to mix.
7. 48 h after cell release, without discarding the original medium, add another 1 mL of lentiviral medium directly into the dish.
8. Add an additional polybrene stock solution into the dish to obtain a final concentration of 5 µg/mL. Tip: Now, the medium in the dish should be a total of 3 mL.
9. 72 h after cell release, cells may reach confluence. Trypsinize the cells off the 35 mm dish and culture those cells in a 60 mm dish.
10. Add puromycin to the dish at a final concentration of 4 µg/mL. Tip: To assess the efficacy of puromycin selection, culture a dish of wild-type HT-1080 cells as a negative control.
11. Allow puromycin selection for 48 h. Almost all wild-type HT-1080 cells should die, while the dish infected with lentiviruses should have some remaining cells.
12. Replace the medium with regular growth medium without puromycin and allow the cells to grow to confluence before harvesting or staining.

- Note:**
1. This product is for research use only.
 2. This product is only supplied to end users.
 3. Do not use this product for commercial.

Validation Data



Genotype	Ct Value
Wild-Type	14.16
Knock-Down	15.84
Δ Ct (CtKD-CtWT)	1.68
% mRNA Reduction	69%

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RT-qPCR analysis. HT-1080 cells were infected with P4HB-specific shRNA lentiviral particles, total RNA was extracted from wild-type and knockdown cells, RT-qPCR was performed using gene-specific primers. Δ Ct (CtKD-CtWT) was used to calculate mRNA reduction (%) between

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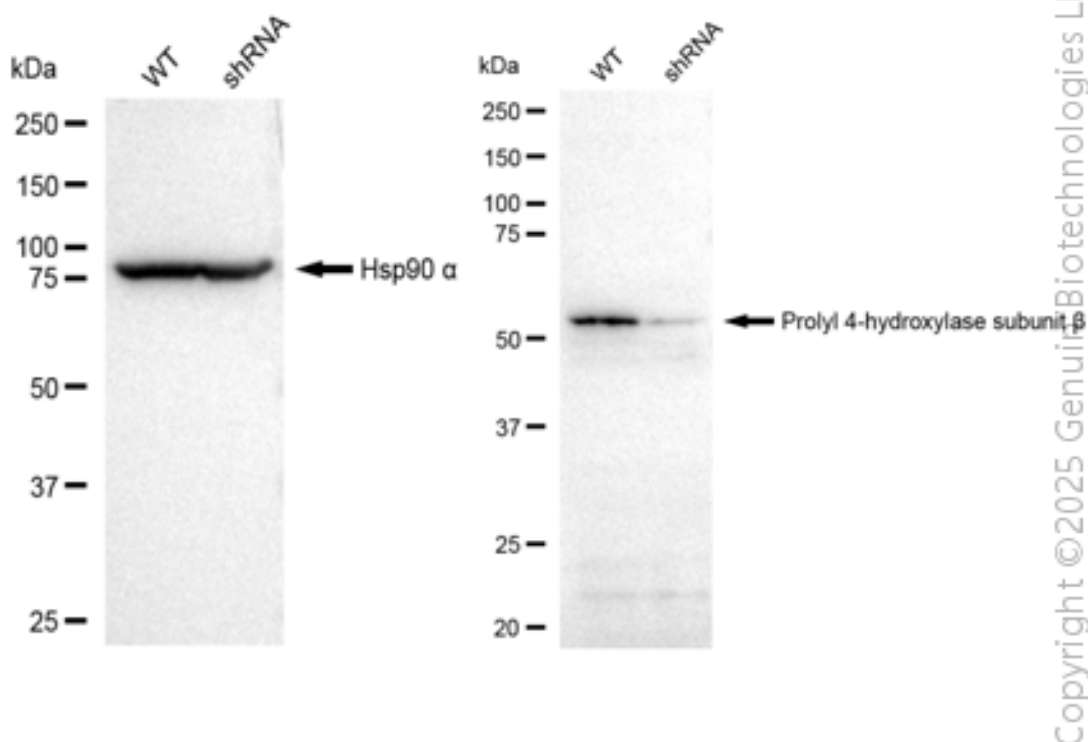
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wild-type and knockdown cells using the following formula: $(1 - 1/2^{\Delta Ct}) \times 100\%$.



Western blotting analysis. P4HB protein expression in wild-type (WT) and shRNA knockdown (KD) HT-1080 cells was detected using Western blotting. Hsp90 α served as a loading control. The blots were incubated with primary antibodies against P4HB and Hsp90 α , respectively, followed by incubating with HRP-conjugated goat anti-rabbit secondary antibody. Images were developed using FeQTM ECL Substrate Kit.

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