Figure S1. PPARδ expression. Endothelial cells were isolated from lung, liver and skeletal muscle measured at mRNA level by qRT-PCR (A) (n = 8 for lung group, n = 6 for liver group, n = 3 for skeletal muscle group) and at protein level by Western blotting (B). C. Representative pictures of the foot color and nails at days 7 after HLI. D. Ischemic score as described (n = 10, each group). E. Concentration-response curves to SNP in femoral arteries at days 28 after HLI (n = 6, each group). Results are means ± SEM. Student’s t test was used for comparison between two samples, and one-way ANOVA and multiple comparison test was used for more than two samples. * p < 0.05, ** p < 0.01, *** p < 0.001 between groups.

Figure S2. A (representative images) and B (summarized analysis) of sprouting length from mouse aortic ring in PpardEC-KO mice compared to PpardEC-WT (n = 9, each group). Scale bar: 200 μm. Student’s t test was used for comparison between two samples, and one-way ANOVA and multiple comparison test was used for more than two samples. * p < 0.05, ** p < 0.01, *** p < 0.001 between groups.

Figure S3. Representative images of immunostaining of albumin (red) in frozen sections of GA muscle 14 days after HLI (n = 6, each group). Scale bar: 200 μm.
Figure S4. A-D, summarized analysis of tube formation in Figure 5A analyzed using the Angiogenesis Analyzer of Image J (n = 6, each group). E-I, qPCR analysis of Hif1α, Vegfa, Vegfr2, Pdk1, and Angptl4 mRNA levels in mBMECs under hypoxia for 12 h after transfection with siRNA, from 3 biological replicates. J, Representative gel showing ChIP of anti-HIF1α immunoprecipitates from Hela cells after HIF1A or PPARD silencing, followed by hypoxia for 12 h to show HIF1α enrichment on the GLUT1 promoter. K, mRNA expression of HIF1α or PPARδ under hypoxia for 12 h in Hela cells. Results are means ± SEM. * p < 0.05, ** p < 0.01 between groups by one-way ANOVA and multiple comparison test.
**Supplementary Figure 5**

**A** Immunobots showing the anti-HA immunoprecipitates in HEK293T cells with indicated plasmids transfected, indicating no interaction of PPARδ and HIF1β in HEK293T cells. **B** Immunobots showing HIF1α under indicated conditions in BMECs (Hypoxia: 12 hours) with or without GW501516 (100 mmol/L). Results are representative data with at least three replicates. **C-F**, qPCR analysis of Vegfa, Pdk4, and Ppard in mBMECs under hypoxia for 12 h after treated with GW501516 at the indicated concentration and duration. Results are biological replicates expressed in means ± SEM. * p < 0.05, ** p < 0.01 between groups by one-way ANOVA and multiple comparison test.

**Supplementary Figure 6**

**A** Representative images of immunofluorescence of HIF1α (green) expression to co-localized with CD144 (red) in muscle at day 7 after HLI (n = 3, each group). Scale bar: 200 μm. **B-D**, qPCR analysis for HIF1α downstream gene mRNA expression in muscles collected 7 days after HLI(n = 6, each group). Results are means ± SEM. * p < 0.05, ** p < 0.01, between groups by one-way ANOVA and multiple comparison test.
| Genes          | Primer sequence (5’ to 3’)                                                                 |
|---------------|---------------------------------------------------------------------------------------------|
| Mouse 18sRNA  | GCAATTATTCCCCCATGAACG                                                                    |
|               | GGCCTCATAAACACCATCCAA                                                                     |
| Mouse Gapdh   | ATGGTGAAAGTGGTGCTGAA                                                                     |
|               | GAGGTCAATGAGGCGTGCTG                                                                      |
| Mouse Pax3    | GCGTCTCTAGATGCCTGACG                                                                     |
|               | GATTGCCAGCTAACATGCTGC                                                                     |
| Mouse Pax7    | GTTCGGGAAGAAGAGAGGAGG                                                                     |
|               | GGTCTAGATGCTGCTGCAAGG                                                                     |
| Mouse Myf5    | GGTGGGAACACTACAGCCAGG                                                                     |
|               | ACAGTAGAAGTCCTCAAGGG                                                                     |
| Mouse Myod    | GCATACAGTGCGACTGAGG                                                                      |
|               | TCTGAGGCGTGCTGCAAGG                                                                      |
| Mouse Myogenin| CCATCCAGTACATTGAGGCC                                                                     |
|               | CTGGTGGAGATGCTGCTG                                                                        |
| Mouse α-SMA (Acta2) | TGGTACAGAGGACACACTGAGG                                                                  |
|               | CAGTTGTGCTAAGAGGAGG                                                                      |
| Mouse CD31(Pecam1) | AGTCAGAGTCTGTGCTGAGG                                                                  |
|               | TCTCCAGGGTTCTCTGAGG                                                                      |
| Mouse Aqp1    | CTTGCCCTTGTGCTGAGG                                                                       |
|               | CCATTGTGCTGAGGAGG                                                                       |
| Mouse Klf2    | CACCTAAAGGCAGTGCTGAGG                                                                     |
|               | GTGACCTGCTGCTGAGG                                                                       |
| Mouse Fabp4   | AAGGTGAAAGACATCATAAGGG                                                                  |
|               | TCAGGCTTTCATACAGAGGC                                                                   |
| Mouse Egfl7   | CTGAGCATGTCTACAGACCC                                                                     |
|               | TCTGTTGCTGCTGCAAGG                                                                      |
| Mouse Afdn    | TGCCAGCCTTTCTGGATGAGG                                                                    |
|               | CTGGATGTGCTAAGAGGAGG                                                                     |
| Mouse Jam-2   | CAGACTGGAGGTGAAAGGAGG                                                                    |
|               | GCTGACTTACAGAGGAGG                                                                       |
| Mouse Jam-3   | GCAATTGCCTCAATGACAGG                                                                     |
|               | GATGAAAGACGCTGCTGACT                                                                    |
| Mouse Nectin-2| GCCATCTGACCTGCTGATGAGG                                                                   |
|               | TCCACAGTGGGACAAGACAGG                                                                     |
| Mouse Gja5    | GTGCCAAGCAAGGAGGAGG                                                                      |
|               | CCGCGTCTGTGACTAGGAGG                                                                     |
| Mouse Tie2    | GAATCGGAGACGCCTTCACACTT                                                                  |
|               | TCAGGAAAGCCACGCACAGG                                                                     |
| Mouse Vegfa   | GCTGTAACAGATGAAGGCC                                                                     |
|               | CCTATGCTGTGCTGAGG                                                                       |
| Mouse Apelin  | ATGAACTGAGGCTCGCTGAGG                                                                     |
|               | GTCTCTGAGAGTCTGGGAGG                                                                     |
| Mouse Vegfr2  | TTGGCCAAATACACCCCTGAGG                                                                    |
|               | GCAGAAGATACTGCTGAGG                                                                      |
| Mouse Angiop-1| AGGGTTGTTTCAGCGCTGAGG                                                                    |
|               | TGTCATGAGCTTCAGGTAGG                                                                     |
| Mouse IL-8    | GGTGATATTCCAGAGGACCCTTACTG                                                                |
|               | GCCAACAGTAGCCTCACCACCAT                                                                |
| Mouse Fgf2    | AAGCGGCTCAGCTGCAAGAGG                                                                     |
| Gene | Sequence |
|------|----------|
| Mouse *Hgf* | CCTTGATAGACACAACACTCCTCTC |
| Mouse *Cldn5* | GCAGTACCCTCACAAGCATG ACTCGGATGTTTGGGTCAGT |
| Mouse *Zo-1* | GACGCGATTAGTAGTGAAGGACAGACGAGAT |
| Mouse *Occludin-1* | TGGCAAGCGAGTCCGCTGAAAGA GCTGACAGGTAGGACAGACGAT |
| Mouse *Nectin-1* | AGCGGACAGATGGAAGACTCAC GCTTGCGATCCGAGTATGACAGACGAGAT |
| Mouse *Icam1* | AAACAGACCCCGAGACTGCAC GCCTGGCATTTCAGAGTCTGCT |
| Mouse *Vcam1* | ACAGACAGTCCCCTCAATGG TCCTCAAAACCCACAGAGCT |
| Mouse *E-selectin* | AGTTGTGAGTTCTCCTGCGA CACTCCATGACGCCATTCTG |
| Mouse *Ccl2* | CATCCACGTGTTGGCTCA GATCATGGTGGTAATGAGT |
| Mouse *Ccr2* | ACCAGAAGAGGGCAGTGGATT GCGTGGATGAACTGAGGTA |
| Mouse *Cx3cl1* | GTGCAGAAGATGACCTCAC GCGTCTTGGACCCATTTCTC |
| Mouse *IL-1β* | GAAATGCCACCTTTTGACACG TGGATGCTCTCATCAGGACAG |
| Mouse *IL-6* | TCTATACCATCAGACAGACTCT GAAATTGCCATTGCAAAACTCTT |
| Mouse *IFNγ* (IFNG) | CAGCAACAGCAAGGCCAAAGAG TTTCCGCTTCGAGGCTGAGAT |
| Mouse *Hif1α* | ACTTTTGCGGCGCTCAATTT ACTTTTGCGGCGCTCAATTT |
| Mouse *Glut1* | GCTTGCTCAACTGAGATAGACAGAAGGAGAAGTGGCC |
| Mouse *Angpt4* | CTGGACAGATTCCAGAGACGCG GATGCTGTGACATTTCCAGCC |
| Mouse *Rpl13a* | AGATATCGGTCCCTTTCTCCGG CCAGAACCCTTGGAGACAGAC |
| Mouse *Pdk1* | CTGAGCATGTCTCAGAGCCACAG TCTTGCTCCGTCGCAAGTGGT |
| Mouse *Ppard* | AGGAGAAGAAGAGGAGTGGCC GGGAGGAATCTGGGAGAGG |
| Mouse *Adm* | GCCAGATGCACTCTCGCACTCTTC AGGAACTGTGCTCATAGCCAG |
| Human *Hif1α* | GCCACATCATCACCACCATAAGAG GACTCAAAGCGACAGATAAAC |
| Human *Ppard* | GGCTTCCACTAGGTTGTTCCAGT CGGCAACTTGTTGAGGTCTCC |
| Human *Glut1* (For ChIP) | TAGCAACAGCGAGCTGACGCC CCCCAGGTCTGGGATCCTTACAG |
| *PPARδ* | ATTCATCGATAGATCTGATGAGCACAAC CGGAGGAGAAGGAGTGGCC |

**Note:** The sequences provided are nucleotide sequences of various genes, likely used for experimental purposes such as ChIP or similar techniques. The context suggests they might be part of a larger dataset or study comparing gene expression or regulatory elements in different species (Mouse and Human) or under different conditions (Mouse and ChIP experiments).
Table S2: List of antibodies

| Target antigen                                      | Source            | Catalog     | Working concentration |
|-----------------------------------------------------|-------------------|-------------|----------------------|
| Anti-alpha smooth muscle Actin                      | Abcam             | ab32575     | 1:500                |
| AF647 Rat Anti-Mouse CD144                          | BD biosciences    | 562242      | 1:100                |
| Alexa Fluor® 488 anti-mouse CD31                    | MEC13.3           | Biolegend   | 1:200                |
| PE-Cy^TM7 Rat Anti-CD11b                            | BD biosciences    | 552850      | 1:100                |
| Anti-Albumin                                         | Abcam             | ab207327    | 1:500                |
| CD144 (VE-cadherin) Monoclonal Antibody             | Invitrogen        | 14-1441-82  | 1:500                |
| Brilliant Violet 605™ anti-mouse CD45 Antibody      | Biolegend         | 103140      | 1:200                |
| BV605 Rat Anti-Mouse CD144                          | BD Biosciences    | 748261      | 1:100                |
| PE/Cy7 anti-mouse F4/80                             | Biolegend         | 123114      | 1:100                |
| Anti-CD68 antibody                                   | Abcam             | ab31630     | 1:250                |
| PerCP/Cy5.5 anti-mouse Ly-6C Antibody               | Biolegend         | 128012      | 1:100                |
| VEGFR1 antibody                                      | Affibiotec        | AF6204      | 1:250                |
| CD81 antibody-internal                               | Affibiotec        | DF2306      | 1:250                |
| CD63 antibody-internal                               | Affibiotec        | DF2305      | 1:250                |
| Claudin 5 antibody-C-terminal                        | Affibiotec        | AF5216      | 1:250                |
| HIF1A antibody                                       | Affibiotec        | BF0593      | 1:500                |
| LIVE/DEAD™ Fixable Aqua Dead Cell Stain Kit          | Invitrogen™       | L34966      | 1:500                |
| Goat anti-Rabbit IgG (H+L) Highly Cross-Adsorbed Secondary Antibody, Alexa Fluor 488 | Invitrogen        | A-11034     | 1:500                |
| Anti-PPAR delta antibody (ab23673)                  | Abcam             | ab23673     | 1:1000               |
| Goat Anti-Rabbit IgG (H + L)-HRP Conjugate          | Bio-rad           | 1706515     | 1:2000               |
| Goat Anti-Mouse IgG (H + L)-HRP Conjugate           | Bio-rad           | 1706516     | 1:2000               |
| Brilliant Violet 605™ anti-mouse CD64 (FcyRI) Antibody| Biolegend        | 139323      | 1:100                |
| Alexa Fluor® 647 anti-mouse/human Ki-67 Antibody    | Biolegend         | 151206      | 1:100                |
| PE anti-mouse CD106 Antibody                        | Biolegend         | 105713      | 1:100                |
| mouse anti-beta-actin loading control antibody      | Thermofisher      | MA5-15739   | 1:1000               |
| mouse anti-GAPDH loading control antibody           | Thermofisher      | MA5-15738   | 1:1000               |
| PE anti-mouse Ly-6G Antibody                        | Biolegend         | 127608      | 1:100                |
| AF488 anti-mouse CD4 antibody                       | Biolegend         | 100529      | 1:100                |
| Recombinant Anti-VCAM1 antibody                     | Abcam             | ab134047    | 1:250                |
| Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™) | BD Pharmingen™    | 553142      | 1:1000               |
| ZO-1 Monoclonal Antibody (ZO1-1A12)                 | Invitrogen        | 33-9100     | 1:100                |
| Product Description                                                                 | Vendor       | Code     | Dilution |
|-----------------------------------------------------------------------------------|--------------|----------|----------|
| HIF-1α (D1S7W) XP® Rabbit mAb #36169                                              | CST          | 36169S   | 1:100    |
| Goat anti-Mouse IgG (H+L) Highly Cross-Adsorbed Secondary Antibody, Alexa Fluor Plus 488 | Invitrogen   | A32723   | 1:500    |
| Goat anti-Rat IgG (H+L) Cross-Adsorbed Secondary Antibody, Alexa Fluor 568         | Invitrogen   | A-11077  | 1:500    |
| PE/Cy7 anti-mouse CD133 Antibody                                                  | Biolegend    | 315-2C11 | 1:100    |
| Mouse VEGFR2/KDR/Flk-1 Antibody                                                   | R&D          | Af644    | 1:100    |
| Anti-CD31 antibody                                                                | Abcam        | ab28364  | 1:500    |
| Fluorescein labeled Griffonia (Bandeiraea) Simplicifolia Lectin I (GSL I, BSL I)  | Vectorlabs   | FL-1101-5| 1:100    |