Figure S2

(A) H3K4me3

(B) H3K27me3

Scaled genomic location

Chromosome number

Chromosome number

Scaled genomic location
Figure S3

A

- **t0**
  - Promoter: 33%
  - TSS: 19%
  - Broad: 22%
  - Intergenic: 28%

- **t8**
  - Promoter: 25%
  - TSS: 16%
  - Broad: 22%
  - Intergenic: 34%

- **t24**
  - Promoter: 20%
  - TSS: 19%
  - Broad: 20%
  - Intergenic: 38%

- **t+8**
  - Promoter: 31%
  - TSS: 18%
  - Broad: 24%
  - Intergenic: 24%

B

- **t0**
  - Promoter: 24%
  - TSS: 13%
  - Broad: 9%
  - Intergenic: 59%

- **t8**
  - Promoter: 21%
  - TSS: 11%
  - Broad: 13%
  - Intergenic: 55%

- **t24**
  - Promoter: 20%
  - TSS: 12%
  - Broad: 12%
  - Intergenic: 58%

- **t+8**
  - Promoter: 31%
  - TSS: 10%
  - Broad: 12%
  - Intergenic: 47%
A

<table>
<thead>
<tr>
<th></th>
<th>all genes</th>
<th>HIF1A targets</th>
</tr>
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<tbody>
<tr>
<td>expressed during hypoxia</td>
<td>11% (2544 of 22732)</td>
<td>30% (58 of 206)</td>
</tr>
<tr>
<td>upregulated during hypoxia</td>
<td>43% (325 of 751)</td>
<td>97% (39 of 40)</td>
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</tbody>
</table>

B

C

Figure S4

Incubation time (hrs)

0      24

+8

MCF7

shcon

shHIF1A

HIF1A

bActin

H3K4me3

H3K27me3

Incubation time (hrs)

0      24

+8

H3K4me3

H3K27me3

H3K4me3/H3K27me3

Incubation time (hrs)

0      8

24      +8

HIF1a set

Other genes

% Percentage of genes

0  20  40  60  80  100

H3K4me3

H3K27me3

H3K4me3/H3K27me3

Incubation time (hrs)

0      8

24      +8

HIF1a set

Other genes

% Percentage of genes

0  20  40  60  80  100

H3K4me3

H3K27me3

H3K4me3/H3K27me3

Incubation time (hrs)

0      8

24      +8

HIF1a set

Other genes

% Percentage of genes

0  20  40  60  80  100

H3K4me3

H3K27me3
Figure S6

C

H3K4me3

H3K4me3 & H3K27me3

H3K27me3

H3K4me3 & H3K27me3

No mark

D

H3K4me3

H3K4me3 & H3K27me3

H3K27me3

H3K4me3 & H3K27me3

No mark

Incubation time (hrs)

Gene expression (log2)
Figure S7

**Relative enrichment**

**H3K4me3**

**LOX**

**OPRL1**

**CCNA2**

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<th>+8</th>
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<td><strong>H3K4me3</strong></td>
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<tr>
<td><strong>H3K27me3</strong></td>
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<td></td>
</tr>
</tbody>
</table>

* H3K4me3 → H3K4me3

** H3K4me3 → H3K27me3

- H3K4me3 → IgG

- **CCNA2**

- **LOX**

- **OPRL1**
Figure S8

A

B

Gene expression (log2)

Incubation time (hrs)

H3K4/K27me3

H3K4me3 only

Number of genes with profile

Promoter TSS Broad

Number of genes with profile

Promoter TSS Broad

H3K4/K27me3

H3K27me3

H3K4me3

H3K27me3