|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| lncRNAs | Expression | Species/Cell | Target regulation | Mechanisms | Ref. |
| ANRIL | Upregulated | Mouse | IL-33/ST2 | Apoptosis | 1 |
| AK006774 | Upregulated | Mouse/NRMC | miR-448/bcl-2 | Apoptosis | 2 |
| ANRIL | Downregulated | H9c2 | miR-181a / SIRT1 | Apoptosis | 3 |
| CAIF | Downregulated | Mouse | P53/myocardin | Autophagy | 4 |
| CASC2 | Downregulated | Rat | miR-18a/SIRT2 | Oxidative stress | 5 |
| FAF | Downregulated | NRCMs | miR-185-5p/PAK2 | Pyroptosis | 6 |
| HOTAIR | Downregulated | Mouse/H9c2 | miR-206/FN1 | Apoptosis | 7 |
| Gm47283 | Upregulated | Mouse | miR-706/Ptgs2 | Ferroptosis | 8 |
| TTTY15 & HULC | Upregulated | Human | N/A | N/A | 9 |
| 93358 | Upregulated | Mouse | miR-466c-3p/SLC8A1 | Apoptosis | 10 |
| ZNF561-AS1 | Upregulated | Mouse/HCM | miR-223-3p/NLRP3 | Proliferation; Apoptosis | 11 |
| NORAD | Upregulated | Mouse | miR-22-3p/PTEN | Apoptosis | 12 |
| HOTTIP | Upregulated | Mouse | miR-92a-2/c-Met | N/A | 13 |
| SNHG8 | Upregulated | Mouse | PTBP1/ALAS2 | Oxidative stress | 14 |
| FGD5-AS1 | Downregulated | Rat/NRCMs | miR-223-3p/Akt | Apoptosis; Inflammation | 15 |
| APF | Upregulated | Human | N/A | N/A | 16 |
| TUG1 | Upregulated | Mouse | miR-132-3p/HDAC3 | Apoptosis;  ROS accumulation | 17 |
| MALAT1 | Upregulated | Mouse | miR-320/Pten | Apoptosis | 18 |
| ZFAS1 | Upregulated | Mouse | SERCA2a | Ca2+ overload | 19 |
| Sarrah | Downregulated | Mouse | N/A | Apoptosis | 20 |
| ANRIL | Upregulated | H9c2 | miR-7-5p/SIRT1 | Hypoxia-induced  cardiomyocytes injury | 21 |
| Kcnq1ot1 | Upregulated | Rat | miR-466k/miR-466i-5p | Apoptosis | 22 |
| KCNQ1OT1 | Upregulated | Mouse | miR-26a-5p/Atg12 | Autophagy | 23 |
| P21 | Downregulated | Rat | Wnt/β-catenin | Apoptosis | 24 |
| Oip5-as1 | Downregulated | Rat | miR-29a/SIRT1/  AMPK/PGC1α | Apoptosis | 25 |
| TUG1 | Upregulated | Mouse | miR-142-3p/HMGB1 and Rac1 | Apoptosis; Autophagy | 26 |
| ANRIL | Upregulated | Human/Mouse | N/A | Fibrosis; Apoptosis | 27 |
| Gpr9 | Upregulated | Mouse/NRCMs | miR-324-5p/Mtfr1 | Oxidative stress;  Apoptosis | 28 |
| Chaer | Downregulated | Mouse/NMCMs | AMPK/mTOR | Apoptosis | 29 |
| LUCAT1 | Upregulated | MSC | JMJD6-FOXQ1 | Apoptosis | 30 |
| MALAT1 | Upregulated | Rat/HL-1 | miR-125b-5p/NLCR5 | Apoptosis | 31 |
| MIRF | Upregulated | Mouse/NMCMs | miR-26a/Bak1 | Apoptosis | 32 |

**Table S2. Findings of lncRNAs in myocardial infarction.**

**Table S2. Findings of lncRNAs in myocardial infarction (Continued).**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| lncRNAs | Expression | Species/Cell | Target regulation | Mechanisms | Ref. |
| Gm4419 | Upregulated | Rat/H9c2 | miR-682/TRAF3 | Apoptosis; Inflammation | 33 |
| HULC | Downregulated | Rat/H9c2 | miR-377-5p/NLRP3/  Caspase-1/IL-1β | Apoptosis;  Inflammation | 34 |
| Oprm1 | Downregulated | Rat/H9c2 | miR-30b-5p/CSE | Apoptosis | 35 |
| HOTAIR | Upregulated | Mouse/H9c2 | miR-126/SRSF1 | I/R injury | 36 |
| ROR | Upregulated | H9c2 | miR-138/Mst1 | Apoptosis | 37 |
| Snhg1 | Upregulated | Human/Mouse | PTEN/PI3K/AKT/c-Myc | Proliferation | 38 |
| TTTY15 | Upregulated | Human/AC16/  Mouse | miR-98-5p/CRP | Injury | 39 |
| Mirt2 | Upregulated | Rat/H9c2 | miR-764/PDK1 | Apoptosis | 40 |
| ZFAS1 | Upregulated | H9c2 | miR-590-3p/NF-κB | Apoptosis | 41 |
| MALAT1 | Upregulated | NMCMs | TSC2-mTOR | Apoptosis; Autophagy | 42 |
| MALAT1 | Upregulated | Human/Mouse/ HL-1 | miR-144-3p | Apoptosis | 43 |
| MALAT1 | Upregulated | CMECs | miR-26b-5p/Mfn1 | Mitochondrial dynamics; Apoptosis | 44 |
| MALAT1 | Upregulated | Mouse | miR-25-3p / CDC42 | Angiogenesis; Myocardial regeneration | 45 |
| LncHrt | Downregulated | Human/Mouse | SIRT2/LKB1-AMPK | N/A | 46 |
| PVT1 | Upregulated | H9c2 | GSDMD-N/Caspase1 | Pyroptosis | 47 |
| HULC | Downregulated | Rat/H9c2 | miR-377-5p/  NLRP3/Caspase‑1/IL‑1β | Apoptosis | 48 |
| RMST | Upregulated | Mouse | miR-5692/MAGI3 | N/A | 49 |
| SCDAL | Upregulated | hES-MSCs | SNF5/GDF6 | Angiogenesis | 50 |
| H19 | Downregulated | Human/Rat | PBX3/CYP1B1 | Pyroptosis | 51 |
| TUG1 | Upregulated | Mouse | LDH/caspase-3 | Apoptosis | 52 |
| AK035396 | Upregulated | Mouse | Mterf1-COXII/CYTb | Apoptosis | 53 |
| Cfast | Upregulated | Mouse | COTL1 | Fibrosis | 54 |
| KCNQ1OT1 | Upregulated | Mouse | miR-26a-5p / ATG12 | Autophagy; Apoptosis | 55 |
| N1LR | Upregulated | Mouse/H9c2 | TGF-β/Smads | Inflammation; Fibrosis | 56 |
| Gm18840 | Upregulated | Mouse/HL-1 | Junb/Rras2/Bcl3 | Apoptosis | 57 |
| LINC00261 | Upregulated | Mouse/H9c2 | miR-522-3p/ TNRC6A | Apoptosis | 58 |
| DANCR | Upregulated | Human/Mouse/HL-1 | miR-19a-3p/  MAPK1/ERK1/2 | Apoptosis | 59 |
| RP11-400K9.4 | Upregulated | PC/H9c2 | miR-423/PI3K/AKT/ MEK/ERK | Apoptosis | 60 |

**Table S2. Findings of lncRNAs in myocardial infarction (Continued).**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| lncRNAs | Expression | Species/Cell | Target regulation | Mechanisms | Ref. |
| SNHG7 | Upregulated | CFs | miR-455-3p/PTAFR | Apoptosis; Inflammation; Fibrosis | 61 |
| FAF | Upregulated | Rat/NMCMs | PI3K/AKT/FGF9/FGFR2 | Apoptosis | 62 |
| LUCAT1 | Downregulated | Huamn/H9c2 | miR-181a-5p | Oxidative stress; Inflammation; viability; Apoptosis | 63 |
| TTTY15 | Upregulated | AC16 | let-7b/MAPK6 | Hypoxia-induced  cardiomyocytes injury | 64 |
| RMRP | Upregulated | H9c2 | miR-214-5p/p53 | Apoptosis | 65 |
| SNHG8 | Upregulated | H9c2 | miR-335/RASA1 | Apoptosis | 66 |
| FGD5-AS1 | Downregulated | AC16 | miR-195/RORA | Apoptosis;  Oxidative injury | 67 |
| MCM3AP-AS1 | Upregulated | Rat/VECs | miR-24-3p/EIF4G2 | Proliferation; migration | 68 |
| MIAT | Upregulated | Mouse/HL-1 | miR-10a-5p/EGR2 | Apoptosis;  Hypoxia-induced  cardiomyocytes injury | 69 |
| MIAT | Upregulated | H9c2 | SF1/CGRP | Pyroptosis | 70 |
| MIAT | Upregulated | AC16 | miR-488-3p/Wnt/β-catenin | Hypoxia-induced  cardiomyocytes injury | 71 |
| MIAT | Upregulated | H9c2 | VEGFA | I/R injury | 72 |
| MIAT | Upregulated | Mouse | miR-181a-5p/  JAK2/STAT3 | Apoptosis; Inflammation | 73 |
| MIR4435-2HG | Upregulated | Human/Mouse | miR-125a-5p | Apoptosis | 74 |
| NRON | Upregulated | Human/Mouse | HIF-1α | Apoptosis | 75 |
| HOTAIR | Downregulated | H9c2 | miR-125/MMP2 | Proliferation and Apoptosis | 76 |
| SENCR | Downregulated | Human/H9c2 | miR-1 | Apoptosis;  inflammatory response | 77 |
| SNHG15 | Upregulated | Mouse/AC16 | miR-335-3p/TLR4/NF-κB | I/R injury | 78 |
| H19 | Downregulated | Rat | miR-22-3p/KDM3A | Apoptosis | 79 |
| AZIN2-sv | Upregulated | Huamn/H9c2 | miR-214/PTEN/Akt | Angiogenesis | 80 |
| MHRT | Upregulated | Mouse | miR-3185 | Fibrosis | 81 |
| TUG1 | Upregulated | Mouse | miR-133b/CTGF | Fibrosis | 82 |
| TUG1 | Upregulated | Mouse | FUS | Mitochondrial dysfunction; Pyroptosis | 83 |
| XIST | Downregulated | H9c2 | miR-486-5p/SIRT1 | Hypoxia-induced  cardiomyocytes injury | 84 |
| XIST | Upregulated | HCM | miR-191-5p/TRAF3 | Hypoxia-induced  cardiomyocytes injury | 85 |
| XIST | Upregulated | HCF | miR-155-5p | Proliferation; Fibrosis | 86 |

Abbreviation: SERCA2a: sarcoplasmic reticulum Ca2+-ATPase 2a; PGC1α: peroxisome proliferator‐activated receptor γ coactivator 1 alpha; Mtfr1: mitochondrial fission regulator 1; TRAF3: tumor necrosis factor receptor-associated factor 3; CRP: C-reactive protein; PDK1: 3-phosphoinositide-dependent kinase 1; RORA: retinoid acid receptor‑related orphan receptor α; KDM3A: Lysine (K)‐specific demethylase 3A; FUS: fused in sarcoma; APF: autophagy promoting factor; FAF: FGF9-associated factor; PAK2: P21 activated kinase 2; VECs: vascular endothelial cells; NRON: noncoding repressor of nuclear factor of activated T cells; hES-MSCs: human embryonic stem cell-derived mesenchymal stem cells; TNRC6A: Trinucleotide Repeat-Containing Gene 6a ; PC: primary cardiomyocytes; HCF: human cardiac fibroblast; N/A: Not application.

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