# Early treatment with Resolvin E1 facilitates myocardial recovery from ischemia in mice

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**SUPPLEMENTARY INFORMATION**

**Table S1: Primers used for RT-PCR analysis**

| Gene | Sense | Anti-sense |
|---|---|---|
| GAPDH | CCCTTATTGACCTCAACTACATGGT | GAGGGGCCATCCACAGTCTTCTG |
| IL-4 | ACGGAGATGGATGTGCCAAAC | AGCACCTTGGAAGCCCTACAGA |
| IL-6 | TCTCTGGGAAATCGTGGAAA | GATGGTCTTGGTCCTTAGCC |
| IL-1α | CGAAGACTACAGTTCTGCCATT | GACGTTTCAGAGGTTCTCAGAG |
| IL-1β | GCAACTGTTCCTGAACTCAACT | ATCTTTTGGGGTCCGTCAACT |
| TNF-α | ACGGCATGGATCTCAAAGAC | CGGACTCCGCAAAGTCTAAG |
| INF-γ | ATGAACGCTACACACTGCATC | CCATCCTTTTGCCAGTTCCTC |
| VEGF-A | GGGAGTCTGTGCTCTGGGAT | GGTGTCTGTCTGTCTGTCCG |
| VEGF-B | GCCAGACAGGGTTGCCATAC | GGAGTGGGATGGATGATGTCAG |
| VEGF-C | GAGGTCAAGGCTTTTGAAGGC | CTGTCCTGGTATTGAGGGTGG |
| TGF-β | CTCCCGTGGCTTCTAGTGC | GCCTTAGTTTGGACAGGATCTG |
| VEGF | GGGAGTCTGTGCTCTGGGAT | GGTGTCTGTCTGTCTGTCCG |
| FGF | CTGCTGGGGGTCTACCAAG | CTGCGCCTACCACTGTTCC |
| HGF | AGGTGACCTTTGCTTTCCCG | ACGTAAAGCCCCTGTTCCTG |
| PDGF | GGCGAGCGAGTGGGTAGATA | TCCAAAGTTGGCTTTGCAGC |
| BLT1 | ATGGCTGCAAACACTACATCTC | GACCGTGCGTTTCTGCATC |
| ChemR23 | ATGGAGTACGACGCTTACAACG | GGTGGCGATGACAATCACCA |
| CTGF | GGGCCTCTTCTGCGATTTC | ATCCAGGCAAGTGCATTGGTA |
| Collagen I | GCTCCTCTTAGGGGCCACT | CCACGTCTCACCATTGGGG |
| Collagen III | CTGTAACATGGAAACTGGGGAAA | CCATAGCTGAACTGAAAACCACC |
| Fibronectin | ATGTGGACCCCTCCTGATAGT | GCCCAGTGATTTCAGCAAAGG |
| AngiotensinII | AACAGCTTGGTGGTGATCGTC | CATAGCGGTATAGACAGCCCA |
| Osteopontin | AGCAAGAAACTCTTCCAAGCAA | GTGAGATTCGTCAGATTCATCCG |

**Table S2: Effect of RvE1 treatment during different periods on cardiac healing after MI in mice**

| | LV Vol;d (μL) | LV Vol;s (μL) | EF (%) | FS (%) | LV Mass (AW) (mg) |
|---|---|---|---|---|---|
| **RvE1(1-14)** | | | | | |
| PBS (day3) | 75.4±3.8 | 51±3.2 | 31.0±2.7 | 14.3±1.3 | 114.3±6.9 |
| RvE1(day3) | 66.3±2.4* | 39.1±2.2* | 40.2±1.4* | 19.5±0.9* | 104.1±3.8* |
| PBS (day7) | 77.9±8.2 | 60.7±6 | 23.5±4.24 | 10.6±3.9 | 109.9±10.3 |
| RvE1 (day7) | 66.3±4.4* | 51.8±3.9* | 33.3±3.14* | 15.7±1.8* | 95.1±8.0* |
| PBS (day14) | 70.4±5.6 | 50.6±2.6 | 27.9±1.8 | 13.3±0.9 | 117.8±5.2 |
| RvE1 (day14) | 56.8±4.2* | 44.4±4.0* | 21.9±3.0* | 9.7±1.7 * | 126.3±7.5* |
| **RvE1(1-3)** | | | | | |
| PBS (day3) | 73±2.6 | 48.0±1.8 | 34.0±1.5 | 16.2±1.1 | 125.3±4.8 |
| RvE1 (day3) | 66.3±2.8* | 39.3±1.6* | 40.6±1.3* | 19.6±2.0* | 104.2±3.6* |
| PBS (day7) | 72.5±3.2 | 54.4±2.3 | 24.5±1.5 | 11.4±1.3 | 129.9±3.6 |
| RvE1 (day7) | 64.5±3.6* | 43.2±2.8* | 31.7±1.9* | 15.2±1.8* | 105.4±6.2* |
| PBS (day14) | 67.4± 3.4 | 47.2±2.8 | 30.5±2.2 | 13.9± 1.0 | 110.9±5.8 |
| RvE1 (day14) | 61.1±1.6* | 38.2±1.5* | 36.6±1.1* | 17.7±1.3* | 92.4±3.2* |
| **RvE1(3-14)** | | | | | |
| PBS (day3) | 69.7±1.2 | 46.2± 1.3 | 33.7±0.9 | 15.8±1.0 | 105.23± 3.5 |
| RvE1(day3) | 68.9±1.4 | 48.0± 1.4 | 33.9±1.0 | 16.3±0.8 | 110.7±3.0 |
| PBS (day7) | 76.5±3.5 | 58.4±3.2 | 23.2±2.0 | 11.36 ±1.8 | 129.9 ±7.6 |
| RvE1 (day7) | 84.8±2.8* | 51.2±2.9* | 29.3±1.7* | 13.4±2.6* | 112.6±10.2* |
| PBS (day14) | 72.0±1.6 | 49.6±2.2 | 33.0±1.1 | 15.6±1.5 | 110.3±6.7 |
| RvE1 (day14) | 80.0±2. 8* | 61.7±4.4 * | 24.0±1.6* | 11.0±1.1* | 126.5±9.6* |
| **RvE1(1-7)** | | | | | |
| PBS (day3) | 72.4±2.9 | 47.4 ±3.1 | 32.6±1.7 | 15.2 ±2.5 | 120.8 ±8.9 |
| RvE1(day3) | 60.9 ±4.2* | 38.7±4.8* | 39.9±2.4* | 19.2± 1.6* | 108.6 ±7.3* |
| PBS (day7) | 79.4 ±4.8 | 58.2 ±6.1 | 25.1±3.1 | 12.9 ± 2.3 | 129.9±9.6 |
| RvE1(day7) | 70.9±1.4* | 45.3±1.8* | 36.5±0.8* | 16.8±0.9* | 110.5±5.2* |
| PBS (day14) | 79.2±3.0 | 54.4±3.4 | 30.7±1.4 | 14.6±2.3 | 125.6±7.3 |
| RvE1(day14) | 69.6±3.6* | 40.6±4.0* | 39.6±1.5* | 19.6±1.8* | 114.0±6.9* |
| **RvE1(7-14)** | | | | | |
| PBS (day3) | 79.8±4.9 | 56.7±5.8 | 30.6±2.1 | 15.8±3.3 | 129.2±7.9 |
| RvE1 (day3) | 76.6±4.5 | 53.8±5.3 | 33.7±2.5 | 16.1±1.9 | 125.3±8.3 |
| PBS (day7) | 79.4±5.4 | 63.5±5.0 | 23.6±2.1 | 9.8±2.5 | 130.7±8.8 |
| RvE1 (day7) | 75.6±6.3 | 58.6±6.5 | 25.1±2.8 | 11.8± 3.5 | 129.2±9.6 |
| PBS (day14) | 79.2± 5.9 | 54.4± 6.0 | 29.3±2.8 | 14.6 ±3.2 | 120.7± 8.7 |
| RvE1 (day14) | 87.5±4.3* | 74.9±4.5* | 19.7±1.7* | 10.3±2.6* | 141.0±8.0* |

LV Vol;d: left ventricular diastolic volume; LV Vol;s: left ventricular systolic volume; EF: Ejection Fraction; FS: Fractional Shortening; LV Mass: left ventricular mass. Data are expressed as mean ± SEM（*$P$< 0.05, vs. PBS group; animal numbers are indicated in Figure 1）

## Figure S1

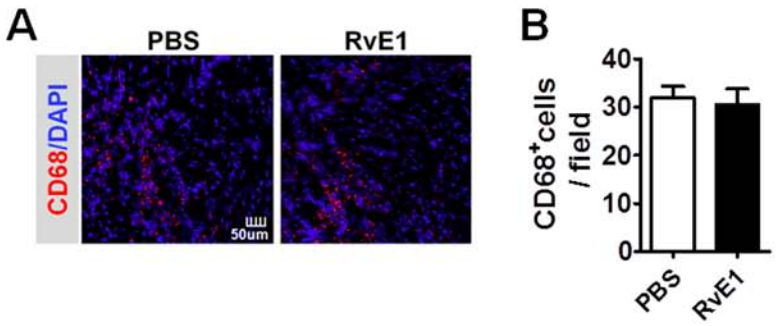


**Figure S1.** Effect of early treatment of RvE1 (day 1-7) on $CD68^+$ cell recruitment in hearts on day 14 after MI. (A) Representative $CD68^+$ inflammatory cell immunofluorescence images of infarcted hearts from RvE1-treated (day 1-7) mice on day 14 after MI. Scale bar, 50μm. (B) Quantification of $CD68^+$ inflammatory cells from **A** (mean ± SEM; PBS, n=6; RvE1, n=6).

Figure S2

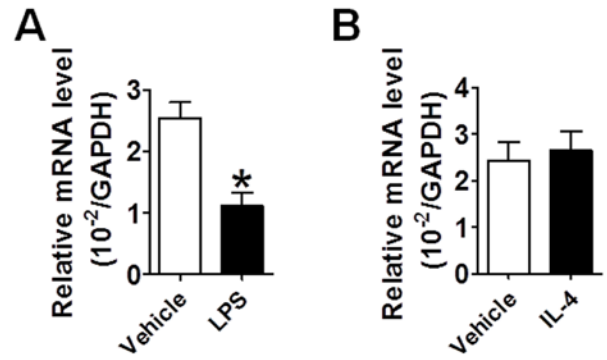


**Figure S2.** ChemR23 expression levels in LPS-treated (A) and IL-4-treated (B) murine Mps. ChemR23 expression were analyzed by RT-PCR (mean ± SEM, n=6; *, $P<0.05$).

## Figure S3

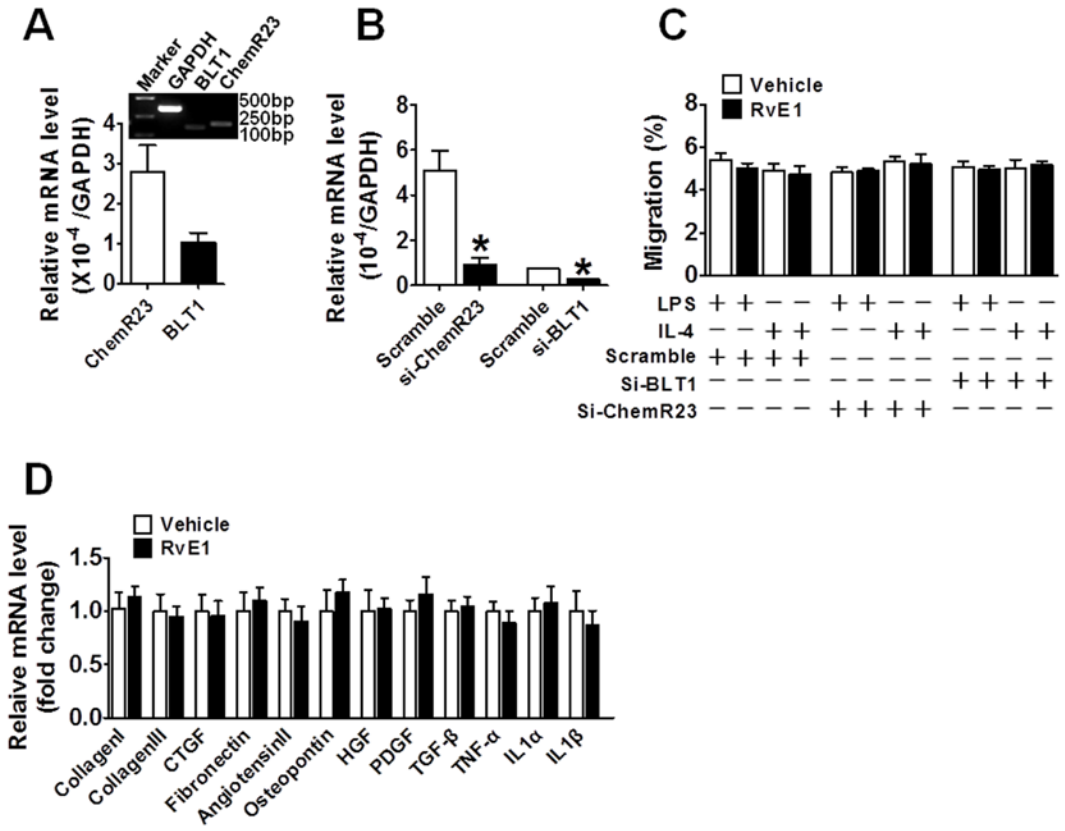


**Figure S3.** Effect of knock down of ChemR23 or BLT1 in cardiac fibroblasts on Mo/Mp migration. (A) Relative mRNA levels of ChemR23 and BLT1 in cardiac fibroblasts (ChemR23, n=6; BLT1, n=6). (B) Knockdown efficiency of BLT1 and ChemR23 in cardiac fibroblasts by siRNAs. Data are normalized to GAPDH levels (**P*<0.05 vs. Scramble siRNA; Scramble, n=5; si-ChemR23, n=5; si-BLT1, n=5). (C) Mp transmembrane migration in co-culture with cardiac fibroblasts pretreated with si-ChemR23 or si-BLT1 (n=6). (D) Effect of RvE1 treatment on expression of matrix protein and cytokine mRNA in cardiac fibroblasts (n=6). All plotted values are means ± SEM.