CORM-3 inhibits inflammatory response of human periodontal ligament fibroblasts stimulated with LPS and high glucose

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Supporting Information

The design sequences of RAGE siRNA, RAGE siRNA NC, RAGE overexpression vector and empty vector were as follows:

AGER homo-494 sense：GGGAGUAUCUGUGAAGGAATT

antisense：UUCCUUCACAGAUACUCCCTT

siRNA NC sense：UUCUCCGAACGUGUCACGUTT

antisense：ACGUGACACGUUCGGAGAATT

Name of overexpression vector: pcDNA3.1-RAGE

Vector Name: pcDNA3.1 (+)

Sequence length: 1233

Cloning site: NheI -- xhoi

Destination sequence:

GCTAGCGCCACCATGGCTGCCGGAACAGCAGTTGGAGCCTGGGTGCTGGT

CCTCAGTCTGTGGGGGGCAGTAGTAGGTGCTCAAAACATCACAGCCCGGA

TTGGCGAGCCACTGGTGCTGAAGTGTAAGGGGGCCCCCAAGAAACCACCC

CAGCGGCTGGAATGGAAACTGAACACAGGCCGGACAGAAGCTTGGAAGG

TCCTGTCTCCCCAGGGAGGAGGCCCCTGGGACAGTGTGGCTCGTGTCCTTC

CCAACGGCTCCCTCTTCCTTCCGGCTGTCGGGATCCAGGATGAGGGGATTT

TCCGGTGCCAGGCAATGAACAGGAATGGAAAGGAGACCAAGTCCAACTAC

CGAGTCCGTGTCTACCAGATTCCTGGGAAGCCAGAAATTGTAGATTCTGCC

TCTGAACTCACGGCTGGTGTTCCCAATAAGGTGGGGACATGTGTGTCAGAG

GGAAGCTACCCTGCAGGGACTCTTAGCTGGCACTTGGATGGGAAGCCCCT

GGTGCCTAATGAGAAGGGAGTATCTGTGAAGGAACAGACCAGGAGACACC

CTGAGACAGGGCTCTTCACACTGCAGTCGGAGCTAATGGTGACCCCAGCC

CGGGGAGGAGATCCCCGTCCCACCTTCTCCTGTAGCTTCAGCCCAGGCCTT

CCCCGACACCGGGCCTTGCGCACAGCCCCCATCCAGCCCCGTGTCTGGGA

GCCTGTGCCTCTGGAGGAGGTCCAATTGGTGGTGGAGCCAGAAGGTGGAG

CAGTAGCTCCTGGTGGAACCGTAACCCTGACCTGTGAAGTCCCTGCCCAGC

CCTCTCCTCAAATCCACTGGATGAAGGATGGTGTGCCCTTGCCCCTTCCCC

CCAGCCCTGTGCTGATCCTCCCTGAGATAGGGCCTCAGGACCAGGGAACCT

ACAGCTGTGTGGCCACCCATTCCAGCCACGGGCCCCAGGAAAGCCGTGCT

GTCAGCATCAGCATCATCGAACCAGGCGAGGAGGGGCCAACTGCAGGCTC

TGTGGGAGGATCAGGGCTGGGAACTCTAGCCCTGGCCCTGGGGATCCTGG

GAGGCCTGGGGACAGCCGCCCTGCTCATTGGGGTCATCTTGTGGCAAAGG

CGGCAACGCCGAGGAGAGGAGAGGAAGGCCCCAGAAAACCAGGAGGAA

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Vector atlas:

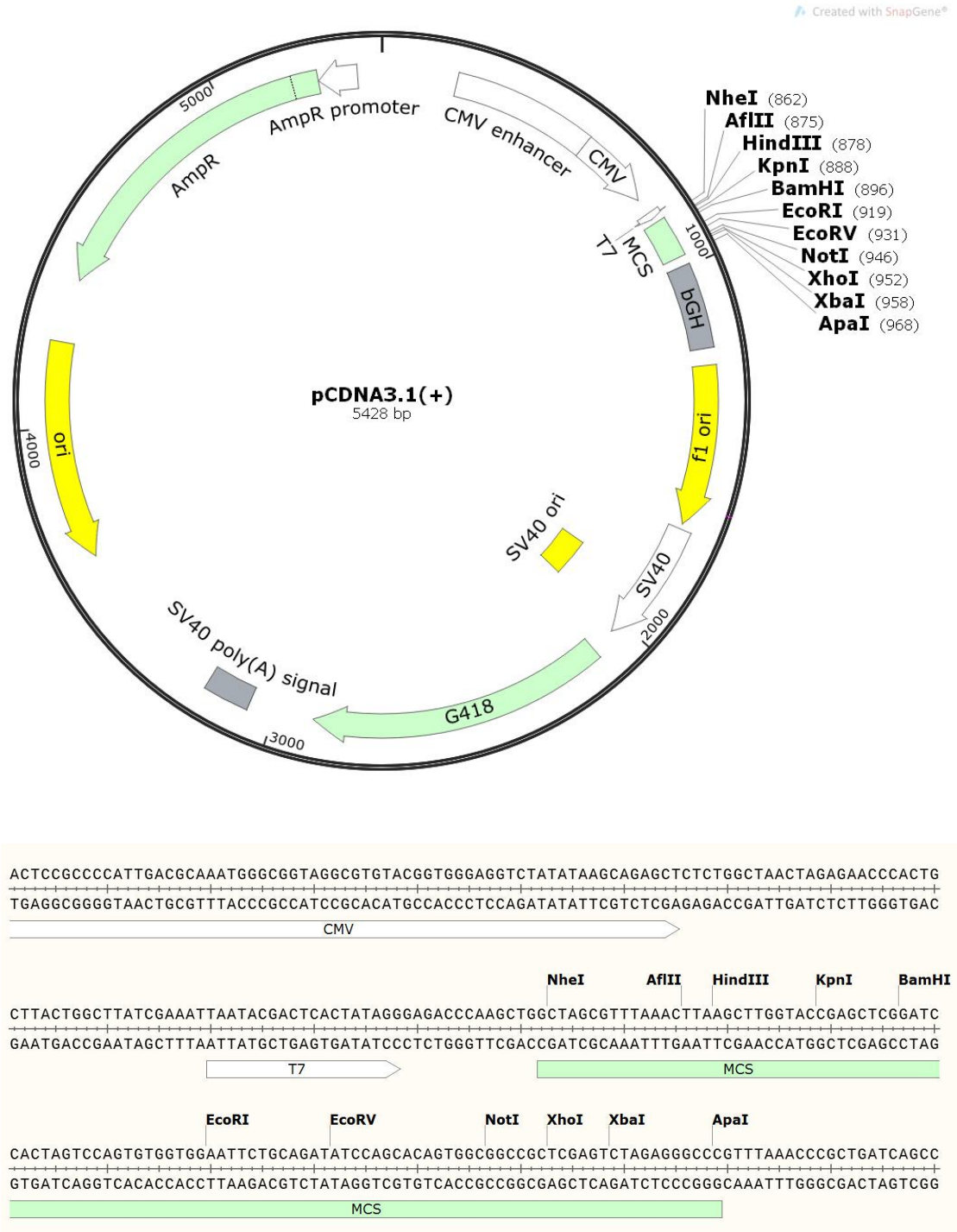

Figure S1. Vector atlas.

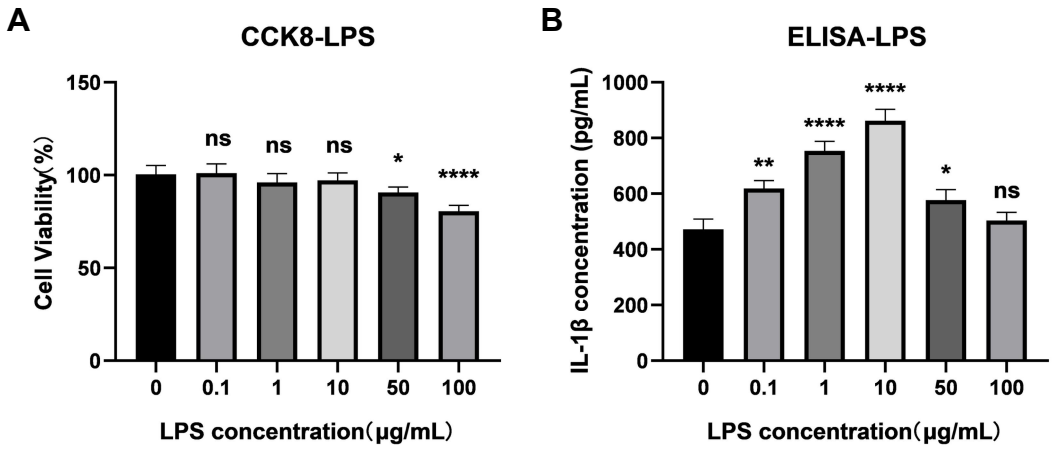

Figure S2. LPS concentration screening. (A) The effect of different concentrations of LPS on the proliferation of hPDLC was detected by CCK-8. (B) The effect of different concentrations of LPS on the release of inflammatory factor IL1β from HPDLC was detected by ELISA. Data were presented as mean ± SD. $^{*}p<0.05$, $^{**}p<0.01$, $^{****}p<0.0001$ vs control group. "ns" represents no statistically significant difference vs control group with $p>0.05$.

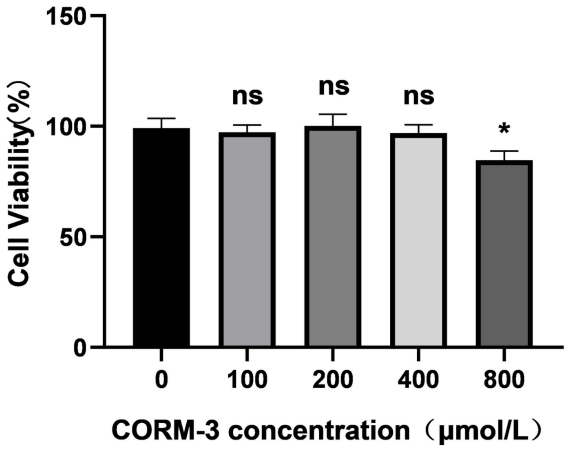

Figure S3. Toxicity detection of hPDLC by CORM-3. The effect of different concentrations of CORM-3 on the proliferation of hPDLC was detected by CCK-8. Data were presented as mean ± SD. $^{*}p<0.05$ vs control group. "ns" represents no statistically significant difference vs control group with $p>0.05$.

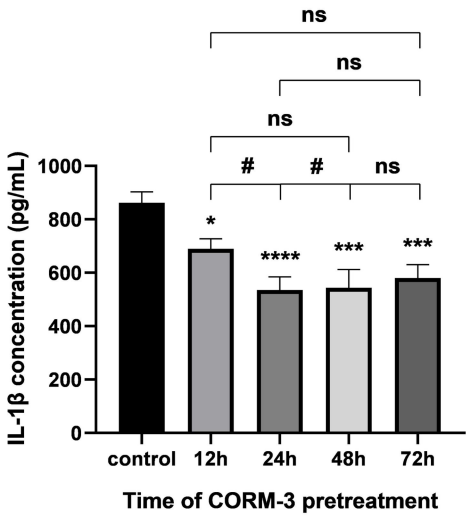

Figure S4. Time selection for CORM-3 pretreatment. The effect of different CORM-3 pretreatment time on the release of inflammatory cytokine IL1β in hPDLC was detected by ELISA. Data were presented as mean ± SD. $^{\#}p<0.05$ vs exprimental groups; $^{*}p<0.05$, $^{***}p<0.001$, $^{****}p<0.0001$ vs control group. "ns" represents no statistically significant difference vs control group and exprimental groups with $p>0.05$.

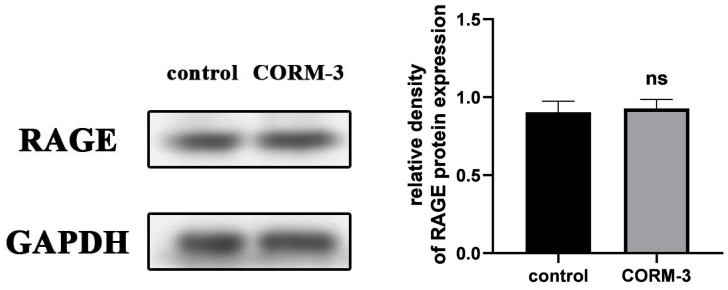

Figure S5. The effect of CORM-3 on RAGE expression. hPDLCs were divided into 2 groups, including control group (untreated) and CORM-3 group (only treated with CORM-3). The effect of CORM-3 on RAGE expression was detected by Western Blot. Data were presented as mean ± SD. "ns" represents no statistically significant difference vs control group with $p>0.05$.

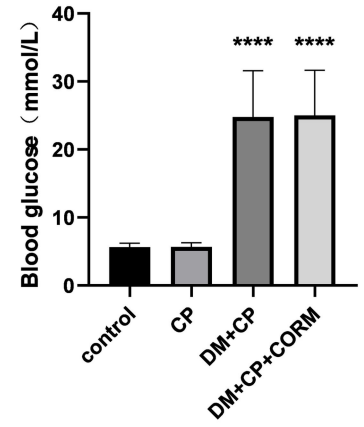

Figure S6. Establishment of diabetes rat model. The experimental diabetes rat model was established by STZ injection. After the modeling was completed, those random blood glucose was detected to verify the success of the modeling. Data were presented as mean ± SD. $^{****}p<0.0001$ vs control group.

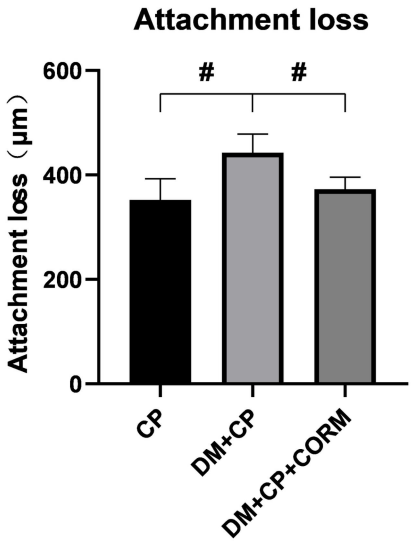

Figure S7. Establishment of experimental periodontitis rat model. The experimental periodontitis rat model was established by ligation and *P.g* coating. Attachment loss measured through HE slices. Data were presented as mean ± SD. $^{\#}p<0.05$ vs exprimental groups.