

Supplementary table 1. The details of the patient's related information (Non-OPF & OPF)

Group	Gender (Male: Female)	Age	Weight	T Score (L1-L4)
Non-OPF	12:4	35.67±10.38	65.58±15.00	-0.36±0.27
OPF	6:10	77.18±9.68	59.95±10.94	-2.90±0.39

Apparently, the majority of patients with traumatic fracture are middle-aged men, and the majority of OP fracture are elderly women, which conforms to the rule of clinical incidence of such diseases.

Supplementary Table 2. Primer sequences for qRT-PCR.

Primer	Sequence (5'-3')
GADPH-Fwd	GGCATGGACTGTGGTCATGAG
GADPH-Rev	TGCACCACCAACTGCTTAGC
RANKL-Fwd	CCCACAATGTGTTGCAGTTC
RANKL-Rev	TCCTGAGACTCCATGAAAACG
OPG-Fwd	GTAGGTGCCAGGAGCCATT
OPG-Rev	CAATGAACAAGTGGCTGTGC

Supplementary Table 3. The sequences of primers used for the bisulfite sequencing analysis

Primer	Sequence (5' - 3')
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RANKL-Me-Fwd

ATGGTAAGGGGAGTTTGGAATTAT

RANKL-Me-Rev

ATAACACCCTCTCCACTTCAACTA

OPG-Me-Fwd

TAGATAATGTTATGTATAAAGAGGGG

OPG-Me-Rev

ACTATACTTATATCTCCTCCACCC
