Table S2. Clinicopathological characteristics of 190 ESCCs

Name	Gender	Age	Differentiation	Invasion depth	Lymphatic metastasis	status	days	TGFβ1	pSmad2	GARP	P.gingivalis	TNM
XXX	0	1	2	2	0	1	50	0	0	0	0	0
XXX	1	1	2	2	0	1	10	0	1	1	1	0
XXX	1	1	3	2	1	1	32	0	1	1	1	1
XXX	1	0	2	1	0	0	15	0	0	0	0	0
XXX	0	1	1	1	0	0	72	1	0	1	0	0
XXX	1	1	2	2	1	0	72	1	0	1	1	1
XXX	1	1	2	1	0	1	21	0	1	1	0	0
XXX	0	1	1	1	0	0	43	0	0	0	0	0
XXX	1	0	2	2	0	1	7	1	1	1	1	0
XXX	0	0	2	1	0	0	72	1	0	1	0	0
XXX	0	1	1	2	0	1	63	0	0	1	1	0
XXX	1	0	2	2	1	0	66	0	0	0	0	0
XXX	0	0	3	1	1	0	55.9	0	0	0	0	0
XXX	1	1	3	2	1	1	4	0	1	1	1	1
XXX	0	0	2	2	0	0	61.9	0	0	0	0	0
XXX	0	1	3	2	1	1	12.2	0	1	1	1	1
XXX	1	0	2	1	0	1	30	0	0	0	1	0
XXX	0	1	2	1	0	1	42	1	0	0	0	0
XXX	1	0	1	2	1	0	12	0	0	1	0	1
XXX	1	1	2	2	0	0	25	0	1	1	0	0
XXX	0	1	3	2	1	1	11	1	1	0	1	1
XXX	1	0	2	1	1	0	44	0	0	1	0	0
XXX	1	0	2	2	0	0	18	1	0	0	1	0
XXX	1	1	3	2	0	0	20	0	0	0	0	0
XXX	1	1	3	2	0	1	24	1	1	1	1	0
XXX	0	1	2	1	0	1	30	1	1	0	1	0
XXX	1	1	2	1	0	1	32	0	0	0	0	0
XXX	1	1	2	1	0	1	23	1	0	1	0	0
XXX	0	1	2	1	0	1	24	1	0	0	0	0
XXX	1	1	3	2	0	0	72	1	1	0	0	0
XXX	1	1	2	2	0	1	51	0	1	1	0	0
XXX	1	1	1	1	0	1	32	1	1	0	0	0
XXX	1	0	1	2	0	0	24	0	0	0	0	0
XXX	0	1	2	1	0	1	10.1	1	1	0	0	0
XXX	1	1	2	2	1	1	24.9	0	0	1	0	1
XXX	1	1	1	1	0	1	37	1	0	1	0	0
XXX	1	1	1	2	0	0	23	1	1	0	0	0
XXX	0	1	2	1	0	0	61.87	1	1	0	0	0
XXX	1	1	2	1	1	1	17	1	1	1	1	1
XXX	1	1	3	2	1	0	24	0	0	0	1	1
XXX	1	1	2	2	1	0	72	1	0	0	1	1
XXX	1	1	3	2	1	0	21	1	0	1	1	1
XXX	1	0	1	1	1	0	43	1	0	1	0	0
XXX	1	0	2	2	1	1	12	1	0	0	1	1
XXX	1	1	3	2	1	0	20	0	0	0	1	1
XXX	0	0	3	2	0	0	56.85	0	1	1	1	0
XXX	1	0	3	2	1	0	20	1	1	1	1	1
XXX	0	0	2	2	0	0	58.89	1	0	0	1	0
XXX	0	1	3	2	0	0	22	0	1	0	0	0

XXX	1	1	2	2	1	1	29	1	1	1	1	1
XXX	1	1	1	1	1	1	42	0	1	1	1	0
XXX	0	1	2	2	1	0	19	0	1	0	0	1
XXX	1	1	3	2	0	0	18	1	1	0	0	0
XXX	1	0	2	2	0	1	18.3	1	1	0	1	0
XXX	0	1	1	2	0	0	58.89	0	0	0	0	0
XXX	0	1	1	1	0	1	72	0	1	1	0	1
XXX	1	1	3	1	1	1	33	1	0	1	1	0
XXX	0	1	2	1	0	0	43	0	1	0	0	0
XXX	0	0	1	2	0	0	59.9	0	1	0	0	0
XXX	1	1	2	2	0	0	23	0	0	0	0	0
XXX	0	0	1	2	1	1	32	0	1	1	1	1
XXX	0	1	3	1	1	0	23	0	0	1	1	0
XXX	1	0	2	1	1	1	38	0	1	0	1	1
XXX	1	0	2	2	1	1	2	0	1	1	1	1
XXX	1	0	2	2	0	1	18.92	0	1	1	0	0
XXX	0	1	2	1	0	0	20	0	1	0	1	0
XXX	1	1	2	1	0	1	30	0	1	1	0	0
XXX	0	1	1	1	0	1	29	0	0	0	0	0
XXX	1	1	2	1	1	1	9.9	0	1	1	0	1
XXX	1	0	2	1	0	0	43	0	0	0	0	0
XXX	1	0	2	1	1	1	28	0	1	1	1	0
XXX	0	0	1	2	1	1	56	0	1	1	1	1
XXX	0	0	2	1	1	1	14.9	1	1	1	1	0
XXX	0	1	2	1	0	0	56.85	1	0	1	1	0
XXX	1	0	2	1	1	1	29	1	1	1	1	1
XXX	1	1	2	1	1	1	17	0	0	1	1	1
XXX	1	1	2	2	1	1	27	0	0	0	0	1
XXX	1	0	3	1	0	0	56.85	0	1	1	0	0
XXX	0	1	2	1	1	1	13	0	0	0	1	0
XXX	1	1	1	1	1	1	37	1	0	1	1	1
XXX	0	1	2	2	0	1	10	1	0	1	0	0
XXX	1	1	2	2	0	1	10	1	1	1	1	0
XXX	0	1	1	1	0	1	53.93	0	1	0	0	0
XXX	0	1	2	2	0	0	72	0	0	1	0	0
XXX	0	1	2	1	1	1	38	1	0	0	1	1
XXX	1	0	3	1	1	0	22	0	1	0	0	0
XXX	1	0	2	2	0	0	63.8	1	0	1	0	0
XXX	1	1	1	1	0	0	43	1	1	1	1	0
XXX	1	0	1	1	1	0	43	1	0	1	1	1
XXX	1	0	2	2	1	0	72	0	0	1	1	1
XXX	1	1	2	1	0	0	62.9	0	1	0	0	0
XXX	0	1	1	1	0	0	23	0	1	1	0	0
XXX	1	0	1	1	0	0	12	0	1	0	0	0
XXX	1	1	2	1	1	0	42	0	0	0	0	1
XXX	0	1	2	1	0	1	23	0	1	1	0	0
XXX	1	0	2	1	1	1	21.2	0	1	1	0	0
XXX	1	1	2	2	1	0	22	1	0	1	1	1
XXX	1	1	2	1	0	0	42	1	1	0	0	0
XXX	1	1	2	1	0	1	28	1	0	0	0	0
XXX	1	1	3	2	0	0	24	1	1	0	0	0
XXX	1	1	3	1	0	1	6	0	1	1	1	0

XXX	0	0	2	1	0	0	56.85	0	1	1	0	0
XXX	0	1	2	2	0	0	21	0	1	1	0	0
XXX	1	1	3	2	0	0	20	1	1	0	0	0
XXX	1	1	3	2	1	1	26	1	0	0	0	1
XXX	0	1	2	2	1	1	41.9	1	0	1	0	1
XXX	1	1	1	2	1	1	48	0	0	1	1	1
XXX	0	0	1	2	1	1	0.5	0	0	1	1	1
XXX	1	1	2	2	1	1	52	1	1	1	1	1
XXX	1	0	3	1	1	1	31	0	0	0	0	1
XXX	1	0	1	1	0	0	43	0	1	1	0	0
XXX	1	0	1	2	1	1	40	1	1	1	1	1
XXX	1	1	3	2	0	1	29	0	1	1	1	0
XXX	0	1	2	2	0	1	11	1	0	0	0	0
XXX	1	0	2	1	0	0	43	0	1	1	0	0
XXX	1	1	2	1	1	0	43	0	0	0	0	1
XXX	0	1	1	1	0	1	33	0	0	0	1	0
XXX	0	1	2	1	0	1	16.9	1	0	1	0	0
XXX	0	0	2	2	1	1	64	1	1	0	1	1
XXX	1	1	3	1	0	1	3.1	0	1	0	1	0
XXX	0	1	2	2	0	1	5.1	0	0	0	0	0
XXX	1	1	1	1	1	1	23	0	0	0	0	1
XXX	1	1	1	2	0	0	72	0	1	0	0	0
XXX	0	0	2	2	0	0	23	0	1	0	0	0
XXX	1	0	1	2	0	1	13	0	1	1	1	0
XXX	1	1	2	1	1	0	43	0	0	0	0	1
XXX	1	1	3	2	0	0	23	0	1	0	1	0
XXX	1	0	2	1	0	0	59.87	0	1	0	1	0
XXX	1	0	2	1	0	0	41	1	1	1	1	0
XXX	1	0	2	2	1	0	42	1	0	0	1	0
XXX	1	0	1	1	0	0	23	1	0	0	0	0
XXX	0	1	1	2	0	0	72	0	0	0	0	0
XXX	1	1	2	1	0	0	72	0	0	0	0	0
XXX	1	0	2	1	0	0	72	0	0	0	0	0
XXX	0	1	2	1	1	0	72	0	1	1	0	0
XXX	0	0	2	1	0	0	43	1	1	1	0	0
XXX	0	1	1	1	0	0	72	0	1	0	0	0
XXX	1	1	1	2	0	1	38	1	1	1	1	0
XXX	1	1	2	1	1	0	41	0	1	1	1	1
XXX	1	1	2	2	1	1	18	1	1	0	1	1
XXX	1	0	1	2	0	0	63.8	1	0	1	1	0
XXX	1	1	2	1	1	0	42	0	1	1	0	1
XXX	1	1	2	1	1	0	42	0	0	0	0	0
XXX	0	1	2	1	0	0	43	1	1	0	0	0
XXX	1	1	3	2	0	1	11	1	1	1	1	0
XXX	1	0	2	2	1	1	64	0	1	1	1	1
XXX	1	1	2	1	0	0	42	1	1	1	1	0
XXX	0	1	2	1	0	0	42	1	0	0	0	0
XXX	1	0	3	2	0	0	22	0	0	0	0	0
XXX	1	0	3	2	0	0	25	0	0	0	0	0
XXX	1	0	1	1	0	0	42	0	0	0	0	0
XXX	1	1	2	1	0	0	61.9	0	1	0	0	0
XXX	1	0	1	2	0	0	59.9	1	0	1	1	0

XXX	0	1	1	2	0	0	72	0	0	1	0	0
XXX	1	1	2	2	0	1	56.9	0	0	0	0	0
XXX	1	0	3	1	0	0	43	1	1	0	0	0
XXX	0	1	3	1	0	0	19	0	1	1	0	0
XXX	1	1	2	1	1	0	42	0	1	1	0	1
XXX	1	1	2	1	1	1	41	1	1	1	1	0
XXX	1	0	2	2	1	1	47	0	1	1	1	1
XXX	1	1	2	2	0	1	33.9	0	1	1	0	0
XXX	0	1	3	2	1	0	20	0	1	0	1	1
XXX	1	1	1	2	0	1	31.9	1	1	0	0	0
XXX	1	1	3	2	0	0	21	0	0	0	0	0
XXX	1	1	2	2	0	1	38.9	0	1	0	1	0
XXX	1	0	2	1	0	0	58.89	0	0	1	1	0
XXX	0	0	3	1	0	0	23	0	0	0	0	0
XXX	1	1	2	1	1	1	20	0	1	1	0	1
XXX	1	1	2	1	1	0	42	0	0	0	1	1
XXX	1	0	2	2	0	0	58.89	0	0	1	0	1
XXX	1	0	3	2	1	0	24	1	1	1	1	1
XXX	1	1	2	1	0	0	63.8	0	0	0	0	0
XXX	0	1	2	2	0	0	18	1	0	0	0	0
XXX	0	1	2	2	0	1	35	1	0	1	0	0
XXX	1	1	3	2	0	0	72	0	0	1	0	0
XXX	1	1	2	1	0	0	24	0	0	0	0	0
XXX	0	1	1	1	0	1	39.9	1	0	0	0	0
XXX	1	1	1	1	1	1	10	0	0	0	1	0
XXX	1	1	1	2	0	1	64	1	1	1	0	0
XXX	1	1	1	2	0	1	33	0	0	1	0	0
XXX	1	1	1	2	1	1	64	0	0	0	1	1
XXX	1	1	2	1	1	1	19	0	0	0	1	1
XXX	1	1	2	2	0	1	18	0	0	0	0	0
XXX	1	1	2	1	1	0	42	0	1	0	1	0
XXX	1	1	1	2	1	1	15	1	1	0	1	1
XXX	1	1	2	1	0	1	54	0	0	0	0	0
XXX	1	0	2	2	0	1	23.9	0	1	1	1	0
XXX	1	1	1	2	0	1	38	0	1	1	1	0
XXX	1	1	2	2	1	1	10	1	1	1	0	1
XXX	0	0	2	2	0	0	19	1	0	0	0	0

Table S3. Primer sequences used in this study

Primer	Sequence
PAI-1/F	CATAGTCTCAGCCCGCATGG
PAI-1/R	GGGTCAGGGTTCCATCACTT
Smad7/F	CCCCATCACCTTAGCCGACTCTGC
Smad7/R	CCCAGGGGCCAGATAATTCGTTCC
SNAI1/F	CCTGTCTGCGTGGGTTTTTG
SNAI1/R	ACCTGGGGGTGGATTATTGC
Oct4/F	CAAGCTCCTGAAGCAGAAGAGGAT
Oct4/R	CTCACTCGGTTCTCGATACTGGTT
DAPK/F	TGGGAAGCGGAGCTGAAGTG
DAPK/R	CACGGCATTTCTTCACAACCG
BMF/F	CCCTCCTTCCCAATCGAGTC
BMF/R	TCCCCATCCTCTGGTTGGAA
CDKN2B/F	CAACGGAGTCAACCGTTTCG
CDKN2B/R	GGGCAGCATCATGCACCG
p21/F	ACTCTCAGGGTCGAAAACGG
p21/R	ATGTAGAGCGGGCCTTTGAG
BIM/F	GCTACCAGATCCCCACTTTTCA
BIM/R	CTGGGCTCCTGTCTGTGT

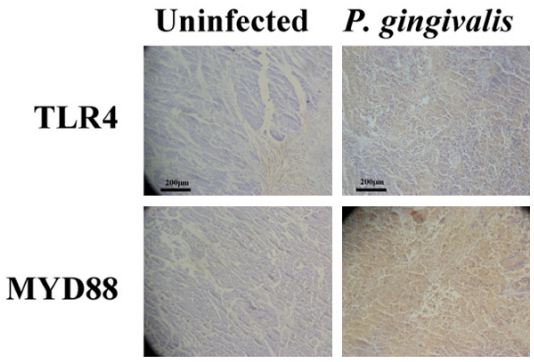

Figure S1. *P. gingivalis*-mediated upregulation of GARP enhances TGFβ activation through TLR4/MYD88 signaling. Representative images of IHC staining of TLR4 and MYD88 in NE6-T-derived xenograft tumors under different treatment conditions. Scale bars, 200 μm.

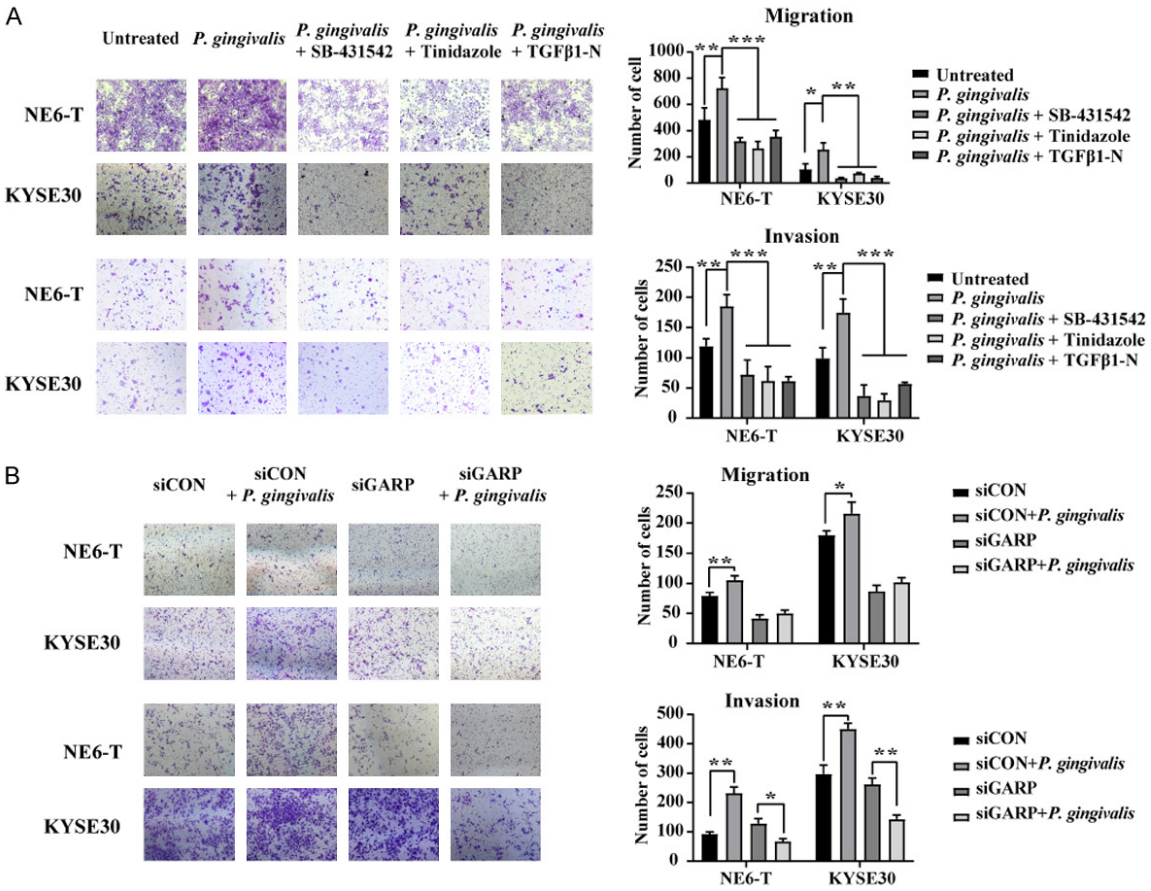

Figure S2. *P. gingivalis* enhances the migration and invasion of NE6-T and KYSE30 cells through GARP upregulation. A, B. Representative images and the quantitation of migration and invasion assay in NE6-T and KYSE30 cells under different treatment conditions. All experiments were independently repeated three times. The quantitation data were presented as means ± SD from three independent experiment with a two-tailed Student's *t*-test for statistical analysis (**P* < 0.05, ***P* < 0.01, and ****P* < 0.001).