

Table SI. Information regarding the antibodies used in this study.

Protein	Application	Antibody ^c	Company	Dilution	Antigen retrieval for IHC (buffer pH)
5 α Red1	IHC	Goat polyclonal (ab79058)	Abcam	1:100	Non-treated
CD163	IHC	Mouse monoclonal (NCL-L-CD163)	Leica	1:200	AC pH 9.0 ^d
Ki67	IHC	Mouse monoclonal (MIB1)	Dako	1:100	AC pH 6.0 (citrate buffer)
ER ^a	IHC	Rabbit monoclonal (SP1)	Roche	-	NA
PR ^a	IHC	Rabbit monoclonal (1E2)	Roche	-	NA
HER2 ^b	IHC	HercepTest -	Dako	-	Water bath (product component)
AR	IHC	Rabbit monoclonal (D6F11)	Cell Signaling	1:400	AC pH 9.0 ^d
AR	WB	Rabbit monoclonal [EPR1535(2)]	Abcam	1:1,000	-
ARG-1	WB	Rabbit polyclonal (GTX109242)	GeneTex	1:6,000	-
FLAG	WB	Mouse monoclonal 1E6	Wako	1:1,000	-
β -actin	WB	Mouse monoclonal AC-15	Sigma-Aldrich; Merck KGaA	1:50,000	-

^aImmunohistochemistry for ER and PR was carried out using Ventana Benchmark XT system. ^bImmunohistochemistry for HER2 was carried out using Herceptest (Dako). ^cClone number or catalog number are provided for monoclonal antibody and polyclonal antibody, respectively.

^dBuffer solution was purchased from Nichirei Bio. AC, autoclave; AR, androgen receptor; ARG1, arginase-1; 5 α Red1, 5 α -reductase 1; ER, estrogen receptor; HER2, human epidermal growth factor receptor 2; IHC, immunohistochemistry; NA, not applicable; PR, progesterone receptor; WB, western blotting.

Table SII. Sequences of the primers used in this study.

Target	Application	Sequences
<i>Arg-1</i>	Real-time PCR	Forward: 5'-GGAATCTGCATGGGCAACCTGTGT-3' Reverse: 5'-GGGTCTACGTCTCGCAAGCC-3'
<i>Ar</i>	Real-time PCR	Forward: 5'-CCTCTCTCAAGAGTTTGGAT-3' Reverse: 5'-TCGAGTTCCTTGATGTAGTTC-3'
<i>Srd5a1</i>	Real-time PCR	Forward: 5'-ATCCTGCGGAATCTGAGAAA-3' Reverse: 5'-CGAGCTCCCCAAAATAGTTG-3'
<i>Akr1c6</i>	Real-time PCR	Forward: 5'-TCGTCCAGAACTCGTACGGGT-3' Reverse: 5'-TCCCGGCTTCATGGCCATTGG-3'
<i>Rpl13a</i>	Real-time PCR	Forward: 5'-GCTCTCAAGGTTGTTTCGGCTGA-3' Reverse: 5'-AGATCTGCTTCTTCTTCCGATA-3'
<i>Ar</i>	Plasmid construction	Forward: 5'-CATAGATCTTCAAGGATGGAGGTGCAGTTAGG-3' Reverse: 5'-CATCTGCAGTCACTGTGTGTGGAA ATAGATGG-3'
<i>Akr1c6-FLAG</i>	Plasmid construction	Forward: 5'-AAAGGATCCGCCACCATGGATTCTAAGCAGCAGACAG-3' Reverse: 5'-AAAAAGCTTTTATCACTTATCGTCGTCATCCGTATTCATCC CAAAATGGA-3'
<i>Arg-1</i> , Arginase-1; <i>Ar</i> , androgen receptor; <i>Srd5a1</i> , 5 α -reductase 1; <i>Akr1c6</i> , aldo-keto reductase family 1, member C6; <i>Rpl13a</i> , ribosomal protein L13A.		