Table 1.

BIOMARKERS	USE	PHARMACODYNAMICS
SCC Ag	Prognosis Staging Response to treatment Detection of recurrence	Serine and cysteine protease inhibitor
CYFRA 21-1	Staging Response to treatment	Cytokeratin 19 fragment antigen, normally expressed in epithelial tissues and forms the epithelial cells' filament cytoskeleton
CEA	Prognosis Staging response to treatment Detection of recurrence	Found in normal fetal gastrointestinal tissue, and normally present at very low concentrations in adult plasma
MUC 16	Prognosis	Mucinous transmembrane glycoprotein
CA - 125	Prognosis 2. Staging 3. Recurrence	Mucinous transmembrane glycoprotein
PCNA	Prognosis	Expressed during the G1 and early S phases of the proliferative cell cycle
Ki - 67	Prognosis	Expressed during the G2 and mitotic phases of the proliferative cell cycle
HPV E6	Oncogenesis	Degradation of p53 Activation of the telomere lengthening enzyme telomerase Inactivation of PDZ proteins
HPV E7	Oncogenesis	Inactivation of pRb
C - MYC	Prognosis	Transcription factor
HIF - 1a	Present in cancerous tissue	Suppression of HIF- 1a degradation in hypoxic conditions
VEGF	Angiogenesis Staging	Upregulated by HPV E6
PD - ECGF	Angiogenesis	Endothelial mitogen protein
MCM	Prognosis	Promotion of cell proliferation via DNA replication
TYMS	Prognosis Response to treatment	Encoding of TS leading to canalization of the synthesis of pyrimidines
WRN	Contribution to genomic stability	Suppressed due to DNA hypermethylation in cancer cells
APOC1	Oncogenesis	Apolipoprotein normally found in plasma
COX - 2	Oncogenesis	Enzyme involved in the production of inflammatory mediators and anti-inflammatory drug target
IGF	Staging Detection of recurrence	Suppression of apoptosis and promotion of cell cycle progression
CD34	Angiogenesis Prognosis Detection of recurrence	Transmembrane glycoprotein expressed on early lymphohematopoietic stem cells, progenitor cells and endothelial cells
CYCLINS	Presence in precancerous conditions	Control of the progression of cells through the cell cycle by activating CDK enzymes/ group of enzymes required for synthesis of cell cycle
CD109	Present in SCC	Glycoprotein expressed on primitive hematopoietic stem cells, activated platelets, T-cell lines, and keratinocytes

Table 1. *(continued)*

BIOMARKERS	USE	PHARMACODYNAMICS
CD44v6	Prognosis Staging Response to treatment (possible)	Unclear
XRCC1	Prognosis staging Response to treatment (possible)	Unclear
mTOR	Prognosis Staging Response to treatment	Tumor development via activation of mTOR signaling pathway