

Stromal Group	Cellular Organization Group	Androgen Group	Proliferation	Reference Genes
BGN	FLNC	FAM13C	TPX2	ARF1
COL1A1	GSN	KLK2		ATP5E
SFRP4	TPM2	AZGP1		CLTC
	GSTM2	SRD5A2		GPS1
				PGK1

$$\text{GPS}_u = 0.735 \times \text{Stromal Group} - 0.368 \times \text{Cellular Organization Group} - 0.352 \times \text{Androgen group} + 0.095 \times \text{Proliferation}$$

Where

$$\text{SRD5A2 Thresh} = \begin{cases} 5.5 & \text{if } \text{SRD5A2} < 5.5 \\ \text{SRD5A2} & \text{otherwise} \end{cases}$$

$$\text{TPX2 Thresh} = \begin{cases} 5.0 & \text{if } \text{TPX2} < 5.0 \\ \text{TPX2} & \text{otherwise} \end{cases}$$

$$\text{Stromal Group Score} = 0.527 \times \text{BGN} + 0.457 \times \text{COL1A1} + 0.156 \times \text{SFRP4}$$

$$\text{Cellular Organization Group Score} = 0.163 \times \text{FLNC} + 0.504 \times \text{GSN} + 0.421 \times \text{TPM2} + 0.394 \times \text{GSTM2}$$

$$\text{Androgen Group Score} = 0.634 \times \text{FAM13C} + 1.079 \times \text{KLK2} + 0.642 \times \text{AZGP1} + 0.997 \times \text{SRD5A2 Thresh}$$

$$\text{Proliferation Score} = \text{TPX2 Thresh}$$

The scaled GPS is then calculated as:

$$\text{GPS} = \begin{cases} 0 & \text{if } 13.4 \times (\text{GPS}_u - 10.5) < 0 \\ 100 & \text{if } 13.4 \times (\text{GPS}_u - 10.5) > 100 \\ 13.4 \times (\text{GPS}_u - 10.5) & \text{otherwise} \end{cases}$$