

	SEM1	SEM2	NS PRL	NS E2	NS T
Sex hormones	<ul style="list-style-type: none"> Low expression of most hormone-related genes; moderate <i>LHB</i> 	<ul style="list-style-type: none"> Low expression of most hormone-related genes; <i>FSHB</i>-positive 	<ul style="list-style-type: none"> High expression of PRL, moderate expression of CGA, GNRH2 and estrogen-synthesis genes 	<ul style="list-style-type: none"> High expression of CGA and GNRH2 and estrogen-synthesis genes 	<ul style="list-style-type: none"> High expression of testosterone-synthesis genes
Clinics	<ul style="list-style-type: none"> Middle-late age onset Predominantly seminoma Predominantly S0 - S1 marker stage 	<ul style="list-style-type: none"> Late age onset Predominantly seminoma S0 - S3 marker stage 	<ul style="list-style-type: none"> Early age onser NSGCT S0 - S2 marker stage 	<ul style="list-style-type: none"> Early age onser NSGCT S1 - S3 marker stage 	<ul style="list-style-type: none"> Early age onset Predominantly NSGCT Predominantly S0 - S1 marker stages
Biology	<ul style="list-style-type: none"> PD1 and IFN signaling MAPK signaling 	<ul style="list-style-type: none"> Vitamin B1 metabolism IFN signaling Peptide hormone synthesis 	<ul style="list-style-type: none"> Endothelial cell processes VEGF, WNT and NOTCH signaling 	<ul style="list-style-type: none"> Cholesterol uptake and turnover Steroid synthesis Estrogen biosynthesis 	<ul style="list-style-type: none"> Endothelial cell pathways Glucocorticoid and pregnolone synthesis FLT3 signaling Inflammasome
Metabolism	<ul style="list-style-type: none"> Purine metabolism 	<ul style="list-style-type: none"> Vitamin B1 metabolism Purine metabolism 	<ul style="list-style-type: none"> Steroid metabolism D-Ala metabolism 	<ul style="list-style-type: none"> Steroid metabolism Folate metabolism Glutathione metabolism CoA metabolism Nucleotide matabolism 	<ul style="list-style-type: none"> Steroid metabolism Nucleotide salvage Pyruvate metabolism Pentose phosphate cycle Vitamin B6 metabolism
TME	<ul style="list-style-type: none"> Mast cells Treg CD8+, CD8+ central memory, CD8+ effector memory B cells Immunogenic Low stroma 	<ul style="list-style-type: none"> Mast cells Treg CD8+, CD8+ central memory, CD8+ effector memory B cells Immunogenic Low stroma 	<ul style="list-style-type: none"> Endothelial cells Cancer-associated fibroblasts Non-Immunogenic High stroma stroma 	<ul style="list-style-type: none"> Endothelial cells Cancer-associated fibroblasts Non-Immunogenic High stroma stroma 	<ul style="list-style-type: none"> Endothelial cells Cancer-associated fibroblasts Non-Immunogenic High stroma stroma
Signaling	<ul style="list-style-type: none"> NK/T cell -mediated cytotoxicity Chemokine signaling Inflammatory pathways 	<ul style="list-style-type: none"> NK/T cell -mediated cytotoxicity Chemokine signaling Inflammatory pathways 	<ul style="list-style-type: none"> Focal adhesion ECM receptor interaction Oncogenic signaling 	<ul style="list-style-type: none"> Focal adhesion ECM receptor interaction Oncogenic signaling Adipokine and neuroactive signaling 	<ul style="list-style-type: none"> Focal adhesion ECM receptor interaction Oncogenic signaling
RFS	<ul style="list-style-type: none"> Excellent 	<ul style="list-style-type: none"> Good 	<ul style="list-style-type: none"> Moderate 	<ul style="list-style-type: none"> Poor 	<ul style="list-style-type: none"> Excellent