Supplementary Table I. Diagnostic value of glycosaminoglycans, proteoglycans and heparanase (selected examples)

	Function/modulator of	Cancer and prognostic value
Syndecan-1	• co-receptor for FGFRs • cell adhesion • proteolytic acitivities • chemokine functions • angiogenesis • stem cell function	1) multiple myeloma (soluble syndecan-1) • independent prognostic marker [1] • positive correlation with bone marrow angiogenesis [2] • mediates HGF-binding and cMet-mediated receptor tyrosin kinase signaling [3] 2) breast (membraneous staining of syndecan-1) • positive correlation with poor prognosis [4,5] • predictive value in neoadjuvant CT [6] 3) colorectum (membraneous) • positive correlation with poor stage of disease and low histological grade [7,8] 4) prostate (membraneous) • overexpression predicts early recurrence [9] • preferential expression in hormone-refractory and metastatic prostate cancer [10] 5) stomach (membraneous) • positive correlation with higher stage, nodal metastases, deep tumor penetration, larger tumor size, worse OS [11] 6) endometrium (membraneous, stromal and epithelial) • epithelial expression is lower in advanced stage, high grade cancers, lymph node metastasis [12] • positive correlation of stromal expression with poor DFS and OS rates [12] 7) squamous cell carcinoma of head and neck (membraneous) • positive correlation with higher histological differentiation grade [13] • association with higher recurrence-free survival and OS [13]

		8) lung (soluble and membraneous) • reduced expression in non-small-cell lung cancers, esp. poorly differentiated tumors [14] • association of high serum levels with poor outcome [15] 9) pancreas (membraneous) • upregulation [16] • independent prognostic marker [17] 10) ovary (stromal staining) • positive correlation with poor prognosis [18] 11) larynx (membraneous) • independent prognostic marker [19,20]
Glypican-3	• tumor suppressor • wnt-pathway	1) lung • reduced expression [21] 2) stomach • reduced expression [22] 3) melanoma • increased expression [23] 4) breast • epigenetically silenced [24]
Decorin	• GFR activities • cell adhesion • angiogenesis	1) breast • reduced expression correlates with poor outcome [25] 2) pancreas

		• overexpression [26] • attenuation of cytostatic action of carboplatin and gemcitabine [26] 3) ovary • synergistic effects with carboplatin [27] • possible function as tumor suppressor [28]
Versican	• interaction with ECM • interaction with EGFR	1) breast • predictor of DFS and OS [29,30] 2) prostate • accumulation observed [31] • association with PSA progression [32] • correlation with progression-free survival [32] 3) lung • correlation with tumor type [33] • inverse correlation with poor tumor differentiation [33] • association with recurrence staging, lymph node metastases, poor DFS [33] 4) pharynx • increased expression in local metastases [34] 5) ovary • association with reduced 5-year survival [35]
Hyaluronan	• metastasis	1) squamous cells • correlation with differentiation of tumor cells [36] • independent predictor of DFS and OS [36] 2) breast

		• relates to poor tumor differentiation, lymph node positivity and short OS [37] 3) prostate • high stromal expression associated with metastasis [38] 4) non-Hodgkin lymphoma • correlation with lymphoma subtype [39] • overexpression in aggressive subtypes [39] 5) colorectum • positive correlation of epithelial expression with metastasis [40]
Heparanase	• angiogenesis • metastasis • growth factor mobilization	1) ovary • increased expression in high grade tumor cells [41] 2) breast • increased expression in microinvasive subtype DCIS [42] • association with metastasis [43] 3) colon • marker for poor prognosis [44] 4) cervix • independent prognostic factor for DFS and OS [45] 5) pancreas • prognostic indicator for postoperative survival [46] • increased expression in the neoplastic stages [46] 6) head and neck cancer • correlation with poor prognosis [47]

		7) gastric cancer • correlation with poor prognosis [48] 8) esophageal cancer • positive association with poor survival [49] • significant positive correlation with invasion and metastasis [49] 9) melanoma • positive correlation between heparanase and melanoma cell brain metastasis [50,51] • increased heparanase expression in neurotrophin-stimulated melanoma invasion in vitro [52] 10) glioma • Heparanase overexpression induces invasion of glioma cells [53] • Heparanase modulates tumor progression depending on its expression level [53] 11) multiple myeloma • high heparanase activity correlates with increased microvessel density in bone marrow [54]

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