

Figure S5

Breast Cancer

- Thy-1 (ECs/MSC):** McLean, K, Gong, Y, *et al* (2011). Human ovarian carcinoma-associated mesenchymal stem cells regulate cancer stem cells and tumorigenesis via altered BMP production. *J Clin Invest* 121:3206
- Brenet, M, Martinez, S, *et al* (2020). Thy-1 (CD90)-Induced Metastatic Cancer Cell Migration and Invasion Are beta3 Integrin-Dependent and Involve a Ca(2+)/P2X7 Receptor Signaling Axis. *Front Cell Dev Biol* 8:592442
- Hepcidin⁺ iron down:** Schmidt, P. J. (2015). Regulation of Iron Metabolism by Hepcidin under Conditions of Inflammation. *J Biol Chem* 290:18975
- EMT-CD44^{hi} CD24^{low}:** Tsai, J. H, Yang, J. (2013). Epithelial-mesenchymal plasticity in carcinoma metastasis. *Genes Dev* 27:2192
- Al-Hajj, M, Wicha, M. S, *et al* (2003). Prospective identification of tumorigenic breast cancer cells. *Proc Natl Acad Sci U S A* 100:3983
- CTNNB1⁺:** Geyer, F. C, Lacroix-Triki, M, *et al* (2011). beta-Catenin pathway activation in breast cancer is associated with triple-negative phenotype but not with CTNNB1 mutation. *Mod Pathol* 24:209
- HMGB1⁺:** Sun, S, Zhang, W, *et al* (2015). High mobility group box-1 and its clinical value in breast cancer. *Oncotargets Ther* 8:413
- Ki67⁺:** Soliman, N. A, Yussif, S. M. (2016). Ki-67 as a prognostic marker according to breast cancer molecular subtype. *Cancer Biol Med* 13:496
- CXCR4⁺:** Mukherjee, D, Zhao, J. (2013). The Role of chemokine receptor CXCR4 in breast cancer metastasis. *Am J Cancer Res* 3:46
- DPP4 (CD26)⁺⁺ in serum:** Eric-Nikolic, A, Matic, I. Z, *et al* (2011). Serum DPP4 activity and CD26 expression on lymphocytes in patients with benign or malignant breast tumors. *Immunobiology* 216:942

Pancreatic Cancer

- Thy-1 (Fibroblasts, ECs (endo):** Zhu, J, Thakolwiboon, S, *et al* (2014). Overexpression of CD90 (Thy-1) in pancreatic adenocarcinoma present in the tumor microenvironment. *PLoS One* 9:e115507
- Hepcidin^{low} iron over:** Brissot, P, Pietrangelo, A, *et al* (2018). Haemochromatosis. *Nat Rev Dis Primers* 4:18016
- CD44⁺CD24⁺:** Li, C, Heidt, D. G, *et al* (2007). Identification of pancreatic cancer stem cells. *Cancer Res* 67:1030
- EBT-CD44⁺CD24⁻:** Peng, L, Liu, Z, *et al* (2017). MicroRNA-148a suppresses epithelial-mesenchymal transition and invasion of pancreatic cancer cells by targeting Wnt10b and inhibiting the Wnt/beta-catenin signaling pathway. *Oncol Rep* 38:301
- CTNNB1⁺ mutation:** Saki, K, Mansouri, V, *et al* (2021). Common and differential features of liver and pancreatic cancers: molecular mechanism approach. *Gastroenterol Hepatol Bed Bench* 14:S87
- HMGB1⁺ :** Cebrian, M. J, Bauden, M, *et al* (2016). Paradoxical Role of HMGB1 in Pancreatic Cancer: Tumor Suppressor or Tumor Promoter?. *Anticancer Res* 36:4381
- Ki67⁺:** Hamilton, N. A, Liu, T. C, *et al* (2012). Ki-67 predicts disease recurrence and poor prognosis in pancreatic neuroendocrine neoplasms. *Surgery* 152:107
- CXCR4⁺:** Marchesi, F, Monti, P, *et al* (2004). Increased survival, proliferation, and migration in metastatic human pancreatic tumor cells expressing functional CXCR4. *Cancer Res* 64:8420
- DPP4(CD26)⁺⁺:** Yan, L, Tian, X, *et al* (2020). CD26 as a Promising Biomarker for Predicting Prognosis in Patients with Pancreatic Tumors. *Oncotargets Ther* 13:12615

SARS-CoV-2

- Thy-1 (ECs/MSC):** Hayashi, T, Sano, K, *et al* (2022). Pathological Evidence for Residual SARS-CoV-2 in the Micrometastatic Niche of a Patient with Ovarian Cancer. *Curr Issues Mol Biol*. 44:5879
- Valeri, A, Chiricosta, L, *et al* (2021). SARS-CoV-2 Exposed Mesenchymal Stromal Cell from Congenital Pulmonary Airway Malformations: Transcriptomic Analysis and the Expression of Immunomodulatory Genes. *Int J Mol Sci* 22:11814

Hepcidin⁺ iron down: Liu, W, Zhang, S, *et al* (2020). Depriving Iron Supply to the Virus Represents a Promising Adjuvant Therapeutic Against Viral Survival. *Curr Clin Microbiol Rep* 7:13

Peng, D, Gao, Y, *et al* (2022). The Relationship Between Hepcidin-Mediated Iron Dysmetabolism and COVID-19 Severity: A Meta-Analysis. *Front Public Health* 10:881412

CD44⁺: Albtoush, N, Petrey, A. C. (2022). The role of hyaluronan synthesis and degradation in the critical respiratory illness COVID-19. *Am J Physiol Cell Physiol* 322:C1037

CD24⁺ treat: Song, N. J, Allen, C, *et al* (2022). Treatment with soluble CD24 attenuates COVID-19-associated systemic immunopathology. *J Hematol Oncol* 15:5

CTNNB1^{hi}: Chatterjee, S, Keshry, S. S, *et al* (2022). Versatile beta-Catenin Is Crucial for SARS-CoV-2 Infection 10:e0167022

Hazra, S, Chaudhuri, A. G, *et al* (2022). Integrated network-based multiple computational analyses for identification of co-expressed candidate genes associated with neurological manifestations of COVID-19. *Sci Rep* 12:17141

HMGB1⁺ serum: Gowda, P, Patrick, S, *et al* (2021). Glycyrrhizin prevents SARS-CoV-2 S1 and Orf3a induced high mobility group box 1 (HMGB1) release and inhibits viral replication. *Cytokine* 142:155496

Ki67⁺ (T cells): Sattler, A, Angermair, S, *et al* (2020). SARS-CoV-2-specific T cell responses and correlations with COVID-19 patient predisposition. *J Clin Invest* 130:6477

Mann, E. R, Menon, M, *et al* (2020). Longitudinal immune profiling reveals key myeloid signatures associated with COVID-19. *Sci Immunol* 5:eabod6197

CXCR4⁺: Niemann, B, Puleo, A, *et al* (2022). Biologic Functions of Hydroxychloroquine in Disease: From COVID-19 to Cancer. *Pharmaceutics* 14:2551

DPP4⁺⁺: Bassendine, M. F, Bridge, S. H, *et al* (2020). COVID-19 and comorbidities: A role for dipeptidyl peptidase 4 (DPP4) in disease severity?. *J Diabetes* 12:649

SLE (Systemic Lupus Erythematosus)

MSC (CD90,CD105, CD73) in SLE: Dong,L, Pu,Y, *et al* (2018). Human umbilical cord mesenchmal stem cell-derived extracellular vesicles promote lung adenocarcinoma growth by transferring miR-410. *Cell Death Dis* 9:218

Hepcidin⁺ Iron⁻ in SLE: Kunireddy, N., Jacob, R. *et al* (2018). Hepcidin and Ferritin: Important mediators in inflammation associated anemia in systemic lupus erythematosus patients. *Indian J Clin Biochem* 33:406

CD44^{hi} in SLE: Yung,S., Chan, T.M. (2012). The role of hyaluronan and CD44 in the pathogenesis of lupus nephritis. *Autoimmune Dis* 2012:207190

CD24^{hi} in SLE: Blair, P.A., Norena, L.Y. *et al* (2010). CD19(+)CD24(hi)CD38(hi) B cells exhibit regulatory capacity in healthy individuals but are functionally impaired in systemic lupus erythematosus patients. *Immunity* 32:129

Urokinase-CTNNB1⁺ in SLE: Zhuang, Y., Zhang, X., *et al* (2022). Exploring the molecular mechanism of Zhi Bai Di Huang Wan in the treatment of systemic lupus erythematosus based on network pharmacology and molecular docking techniques. *Processes* 10:1914

HMGB1⁺ in SLE serum: Liu, T., Son, M, Diamond, B., (2020). HMGB1 in systemic lupus erythematosus. *Front Immunol* 11:1057

Ki67⁺ in NK cells in SLE: Hudspeth,K., Want,S., *et al* (2019). Natural killer cell expression of Ki67 is associated with elevated serum IL-15, disease activity and nephritis in systemic lupus erythematosus. *Clin Exp Immunol* 196:226

CTNNB1⁺ in SLE: Zhuang, Y., Zhang, X. *et al* (2022). Exploring the molecular mechanism of Zhi Bai Di Huang Wan in the treatment of systemic lupus erythematosus based on network pharmacology and molecular docking techniques. *Processes* 10:1914

DPP4 (CD26) in SLE: Huang, J., Liu, X., *et al* (2022). Emerging role of dipeptidyl peptidase-4 in autoimmune disease. *Frontiers in immunology* 13:830863

CD5 decreased in SLE: Omar, H.H., Nasef, S.I., *et al* (2017). CD5+ B lymphocytes in systemic lupus erythematosus patients: relation to disease activity. *Clin Rheumatol* 36:2719

CD1d decrease in SLE: Bosma,A., Abdel-Gadir,A., *et al* (2012). Lipid-antigen presentation by CD1d(+) B cells is essential for the maintenance of invariant natural killer T cells. *Immunity* 36: 477

- CD22^h in SLE: CD22:** Clark, E.A., Giltiay, N.V. (2018). A regulator of innate and adaptive B cell responses and autoimmunity. *Front Immunol* 9: 2235
- CD22⁺⁺CD11b⁺⁺ in SLE:** Ding, C., Ma, Y., *et al* (2013). Intergrin CD11b negatively regulates BCR signaling to maintain autoreactive B cell tolerance. *Nat Commun* 4:2813
- AID⁺ in SLE-IgG:** Kumar, R., DiMenna, L.J., *et al* (2014). Biological function of activation-induced cytidine deaminase (AID). *Biomed J* 37:269
- CD180⁻ in SLE:** You, M., dong, G., *et al* (2017). Ligation of CD180 inhibits IFN-alpha signaling in a lyn-PI3K-BTK-dependent manner in B cells. *Cell Mol Immunol* 14:192
- CD21^{-low}CD27⁻ in SLE:** Horisberger, A., Humbel, M., *et al* (2022). Measurement of circulating CD21(-)CD27(-) B lymphocytes in SLE patients is associated with disease activity independently of conventional serological biomarkers. *Sci Rep* 12:9189
- T-bet^{hi}CD11c^{hi} in SLE:** Wang, S., Wang, J., *et al* (2018). IL-21 drives expansion and plasma cell differentiation of autoreactive CD11c(hi)T-bet(+) B cells in SLE. *Nat Commun* 9:1758
- TCR7⁺TCR9⁺ in SLE:** Wen, L., Zhang, B., *et al* (2023). Toll-like receptors 7 and 9 regulate the proliferation and differentiation of B cells in systemic lupus erythematosus. *Front Immunol* 14:1093208