**Supplementary File 1**

**Table S1.** Articles not supporting and supporting the hypothesis that B cells are essential for early cancer cell recognition and anti-tumor immunity. \*As of February 2021

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Not supporting** | **Title** | **Author (ref)** | **Journal** | **Year** | **Mouse model** | **Cancer type** | **\*No. of Citations** |
| 1 | B cells inhibit induction of T cell-dependent tumor immunity | Qin et al. (1) | Nature medicine | 1998 | muMT | TS/A cells, J558L cells | 427 |
| 2 | Combination Chemotherapy and IL-15 Administration Induce Permanent Tumor Regression in a Mouse Lung Tumor Model: NK and T Cell-Mediated Effects Antagonized by B Cells | Chapoval et al. (2) | J Immunol | 1998 | muMT | 76-9 cells (syngeneic B6 3-methylcholanthrene-induced) | 98 |
| 3 | Enhanced efficacy of melanoma vaccines in the absence of B lymphocytes | Perricone et al. (3) | J Immunother | 2004 | muMT | B16F10 | 81 |
| 4 | Increased rejection of primary tumors in mice lacking B cells: Inhibition of anti‐tumor CTL and TH1 cytokine responses by B cells | Shah et al. (4) | Tumor Immunology  | 2005 | muMT | EL4 thymoma, B16F10 and MC38 colon carcinoma  | 202 |
| 5 | Inhibitory Effects of B Cells on Antitumor Immunity | Inoue et. al.(5) | Cancer Res | 2006 | muMT | Friend murine leukemia virus gag-expressing mouse EL-4, D5 mouse melanoma, or MCA304 mouse sarcoma cells.  | 302 |
| 6 | The absence of B lymphocytes reduces the number and function of T-regulatory cells and enhances the anti-tumor response in a murine tumor model | Tadmor et al. (6) | Cancer Immunol Immunother | 2011 | muMT | EMT-6 mammary adenocarcinoma cells | 106 |
| 7 | Immune-promoted tumor cell invasion and Metastasis New consideration in Cancer Therapy  | Guillem and Sampsel (7) | Cancer therapy (Google books) | 2012 | muMT | B16F10 and LLC | 4 |
| 8 | B lymphocyte inhibition of anti-tumor response depends on expansion of Treg but is independent of B-cell IL-10 secretion | Zhang et al. (8) | Cancer Immunol Immunother | 2013 | muMT | EMT-6 mammary tumors  | 71 |
| 9 | Allogeneic cancer cell-based immunotherapy  | Eckhard R Podack (9) | (US PATENT US8475785B2) | 2013 | muMT | EG7, EL4 and LLC cell line  | 7 |
| 10 | B cells promote tumor progression in a mouse model of HPV-mediated cervical cancer  | Tang et al. (10) | Int. J. Cancer  | 2016 | muMT | TC‐1 tumor cells and B16 Ova | 29 |
| 11 | B lymphocytes can be activated to act as antigen presenting cells to promote anti-tumor responses | Rossetti et al. (11) | PLOS ONE | 2018 | muMT | TC-1 cell line  | 15 |
| 12 | IL-33 delays metastatic peritoneal cancer progression inducing an allergic microenvironment | Perales-Puchalt et al. (12) | OncoImmunology | 2018 | muMT | ID8 cell line | 5 |
| 13 | Polynucleotides for inhibiting metastasis and tumor cell growth  | Barbera-Guillem (13) | (US PATENT US6268350B1) |  | muMT | B16F10 | 2 |
| 14 | B cells Regulate Macrophage Phenotype and Response to Chemotherapy in Squamous Carcinomas | Affara et al. (14) | Cancer Cell | 2015 | JH−/− | SCC cell lines derived from K14-HPV16 mice  | 198 |
|  |  |  |  |  |  |  |  |
| **Supporting** | **Title** | **Author (ref)** | **Journal** | **Year** | **Mouse model** | **Cancer type** | **\*No. of Citations** |
| 1 | Anti-tumor immunity in B-lymphocyte-deprived mice. III. Immunity to primary Moloney sarcoma virus-induced tumors | Gordon et al. (15) | Int J Cancer | 1982 | anti-mouse IgM treatment | Moloney sarcoma virus (MSV) induced tumor | 23 |
| 2 | Low natural antibody and low in vivo tumor resistance, in xid-bearing B-cell deficient mice  | Chow and Bennet (16) | The Journal of Immunology  | 1989 | X-linked immunodeficiency-bearing B-cell deficient mice- low serum IgM and IgG3 | RI-28, a radiation-induced T cell leukemia | 25 |
| 3 | B Cells Are Required for Optimal CD4+ and CD8+ T Cell Tumor Immunity: Therapeutic B Cell Depletion Enhances B16 Melanoma Growth in Mice | DiLillo et al. (17) | J Immunol | 2010 | anti-CD20 mAb treatment | B16F1 | 263 |
| 4 | B cells promote tumor immunity against B16F10 melanoma | Kobayashi et al. (18) | Am J Pathol | 2014 | B-cell linker protein (BLNK) deficient (BLNK−/−) mice, in which B cell development and function is severely impaired | B16F10 | 29 |
| 5 | Immune Surveillance by Natural IgM Is Required for Early Neoantigen Recognition and Initiation of Adaptive Immunity | Atif et al. (19)  | Am J Respir Cell Mol Biol | 2018 | IghelMD4 | B16F10Urethane-induced tumors | 9 |
| 6 | Allogeneic IgG combined with dendritic cell stimuli induces anti-tumor T cell immunity | Carmi et al. (20) | Nature | 2015 | Anti-CD19 & anti-B220 mAb treatment | B16F10 | 134 |

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9. K. Y. Eckhard R.Podack, Nozomi Yamazaki and Joseph D.Rosenblatt (2013) ALLOGENEIC CANCER CELL-BASED IMMUNOTHERAPY. (The University of Miami, Miami, FL (US)).

10. A. Tang *et al.*, B cells promote tumor progression in a mouse model of HPV-mediated cervical cancer. *Int J Cancer* 139, 1358-1371 (2016).

11. R. A. M. Rossetti *et al.*, B lymphocytes can be activated to act as antigen presenting cells to promote anti-tumor responses. *PLoS One* 13, e0199034 (2018).

12. A. Perales-Puchalt *et al.*, IL-33 delays metastatic peritoneal cancer progression inducing an allergic microenvironment. *Oncoimmunology* 8, e1515058 (2019).

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