**Table 1.** GEMMs recapitulating genetic changes associated with human GC B cell lymphomas

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Gene** | **Lymphoma** | **Mutation Type** | **Mouse Model**  | **Approach** | **Target cell** | **Phenotype** | **Ref** |
| *Myc/PI3K*  | BL | deregulated expression + gain of function mutation | *R26Stop*FL*Myc*;*R26Stop*FL*P100\**;Cγ1-Cre | cKI | GC B cells | BL | Sander et al. 2012 |
| *Bcl2* | FL, GCB-DLBCL | deregulated expression | VavP-*Bcl2* | transgene insertion | HPC | FL | Egle et al. 2004 |
|  |  |  | *Bcl2*-Ig | transgene insertion | B cells | FL | McDonnell et al. 1989 |
|  |  |  | *BCL2tracer* | TI/adoptive transfer | B cells | FL | Sungalee et al. 2014 |
| *Kmt2d^* | FL, DLBCL | genetic deletion | *Kmt2d*fl/fl;VavP-*Bcl2*;Cγ1-Cre | cKO | GC B cells | FL, DLBCL | Zhang et al. 2015 |
|  |  |  | *Kmt2d*fl/fl;VavP-*Bcl2*;Cd19-Cre | cKO | B cells | FL, DLBCL | Zhang et al. 2015 |
| *Crebbp^* | FL, DLBCL | genetic deletion | *Crebbp*fl/fl;VavP-*Bcl2*;Cγ1-Cre | cKO | GC B cells | FL | Zhang et al. 2017 |
|  |  |  | *Crebbp*fl/fl;VavP-*Bcl2*;Cd19-Cre | cKO | B cells | FL | Zhang et al. 2017 |
|  |  |  | *Crebbp*fl/fl;Eµ-*Bcl2*; Mb1-Cre | cKO | B cells | FL, DLBCL | Garcia Ramirez et al. 2017 |
| *H1e/H1c^* | FL, DLBCL | genetic deletion | *H1c-/+H1e-/+;VavP-Bcl2* | cKO | All cells | FL, DLBCL | Yusufova et al, 2021 |
| *Ezh2^* | FL, GCB-DLBCL | gain of function mutation | *Ezh2*Y641F/+;IµHABCL6;Cγ1-Cre | cKI/adoptive transfer | GC B cells | DLBCL | Beguelin et al. 2016 |
|  |  |  | *Ezh2*Y641F/+;VavP-Bcl2;Cγ1-Cre | cKI/adoptive transfer | GC B cells | FL, DLBCL | Ennishi et al., 2018 |
| *Mef2b* | FL, GCB-DLBCL | gain of function mutation | Mef2bD83V/+;CD21-Cre | cKI | GC B cells\* | FL, DLBCL | Brescia et al. 2018 |
|  |  |  | Mef2bD83V/+;BCL2-Ig;CD21-Cre | cKI | GC B cells\* | FL, DLBCL | Brescia et al. 2018 |
| *Rragc* | FL | gain of function mutation | RragcS74C/+ or RragcT89N/+;VavP-Bcl2  | TI/adoptive transfer | All cells | FL | Ortega-Molina et al. 2019 |
| Gna13 | GCB-DLBCL, BL | genetic deletion | Gna13fl/fl;Mb1-Cre | cKO/adoptive transfer | GC B cells\*\* | GC BCL | Muppidi et al. 2014 |
|  |  |  | Gna13fl/fl;R26StopFLMyc;Aid-Cre | cKO | GC B cells | GC BCL | Healy et al. 2016 |
| *Bcl6* | DLBCL | deregulated expression | IµHABCL6 | KI | GC B cells | DLBCL | Cattoretti et al. 2009 |
| *Prdm1* | ABC-DLBCL | genetic deletion | Blimp1fl/fl;Cγ1-Cre  | cKO | GC B cells | DLBCL | Mandelbaum et al. 2010 |
|  |  |  | Blimp1fl/fl;R26StopFLIkk2ca; Cγ1-Cre  | cKO | GC B cells | DLBCL | Calado et al. 2010 |
| *Fbxo11* | DLBCL | genetic deletion | Fbxo11fl/fl;Cγ1-Cre | cKO | GC B cells | DLBCL | Schneider et al, 2016 |
| *Myd88* | ABC-DLBCL | gain of function mutation | Myd88p.L265P/+;Aid-Cre | cKI | GC B cells | LPD, DLBCL | Knittel et al. 2016 |
|  | ABC-DLBCL |  | Myd88p.L265P/+;CD19-Cre;Rosa26LSL.BCL2 | cKI | B cells | LPD, DLBCL | Flumann et al., 2021 |
| *Tet2* | FL, DLBCL | genetic deletion | Tet2fl/fl;VavP-Cre  | cKO | HPC | B cell lymphomas | Dominguez et al. 2018 |
|  |  |  | Tet2fl/fl;IµHABCL6;Cγ1-Cre  | cKO/adoptive transfer | GC B cells | B cell lymphomas | Dominguez et al. 2018 |

 Abbreviations: TI, targeted insertion; KO, knock-out; cKO, conditional KO; KI, knock-in; HPC, hematopoeietic progenitor cell; GC BCL, GC-derived B cell lymphoma; LPD, lymphoproliferative disorder.

\* Cre-mediated recombination in mature B cells, but the endogenous promoter is activated in GC B cells.

\*\* Cre-mediated recombination in all B cells, but the endogenous promoter is upregulated in GC B cells.

^ GC-derived lymphomas observed only in cooperation with Bcl2 deregulated expression.

Mouse models obtained by adoptive transfer of retrovirally transduced HPCs not included.