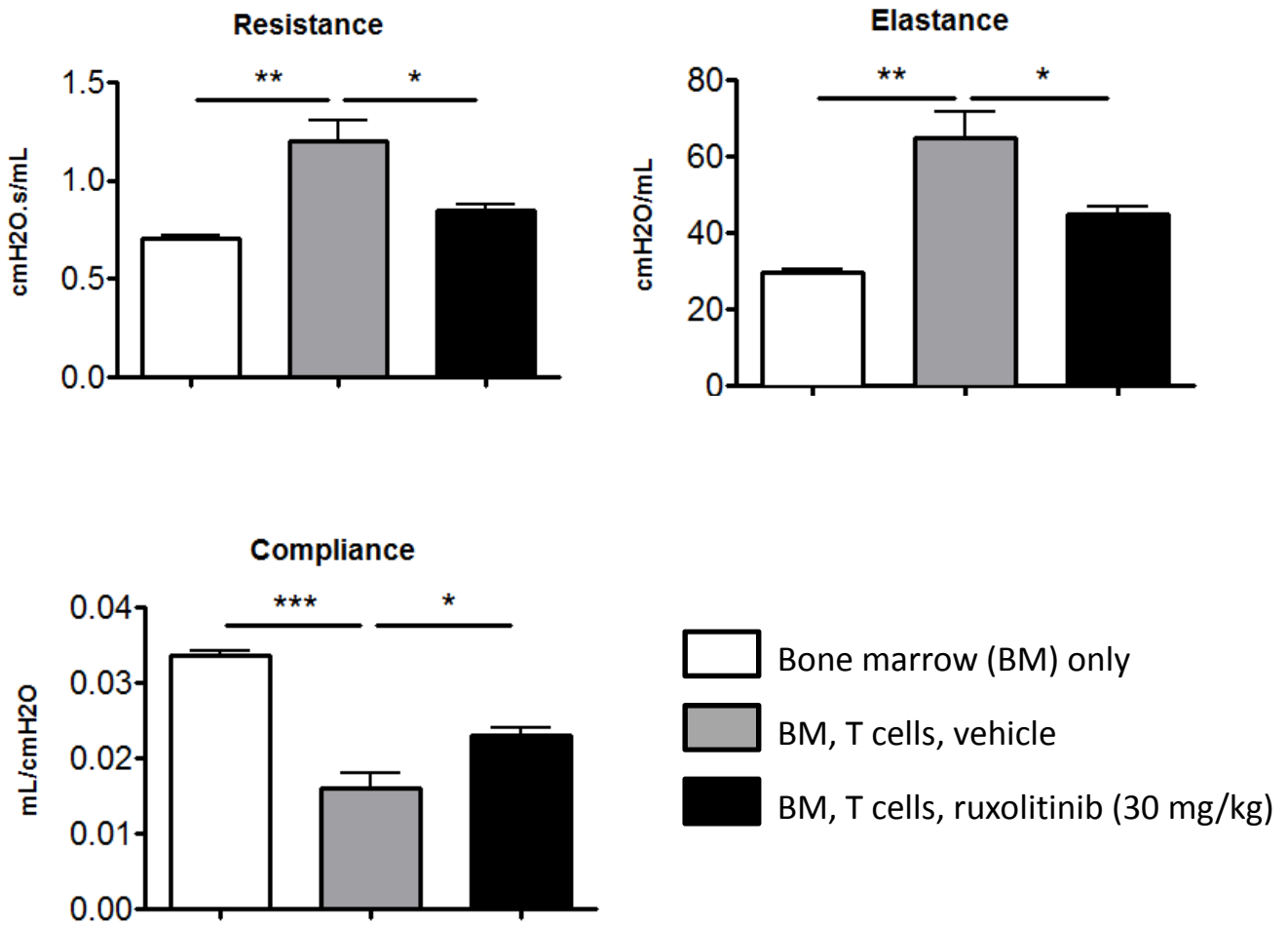
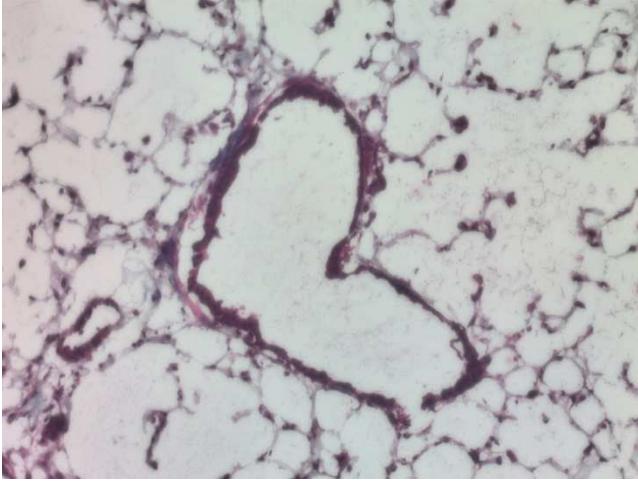


Supplementary Figure 1

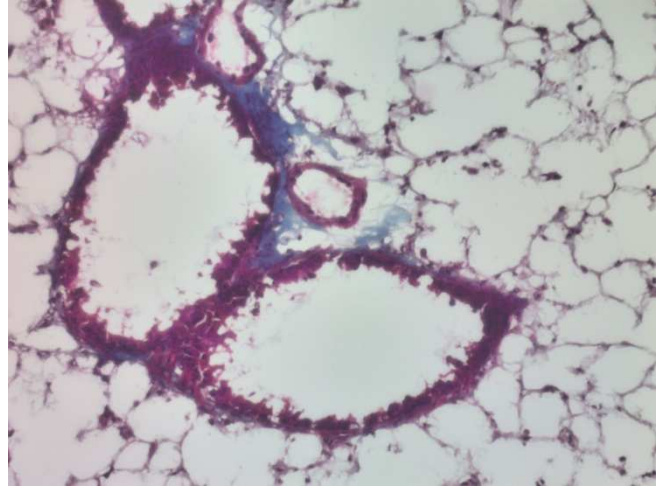


Supplementary Figure 2

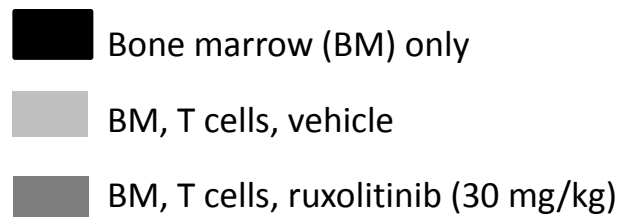
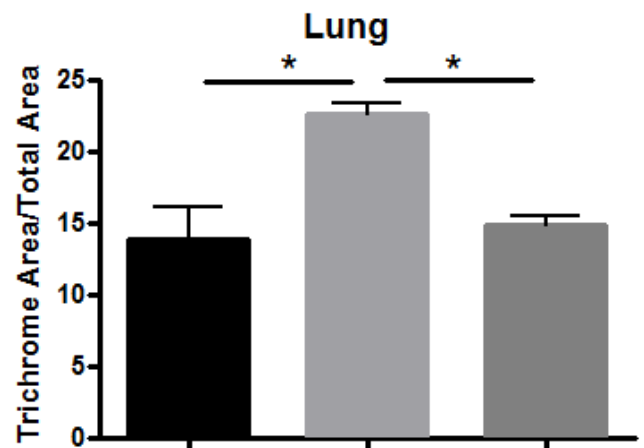
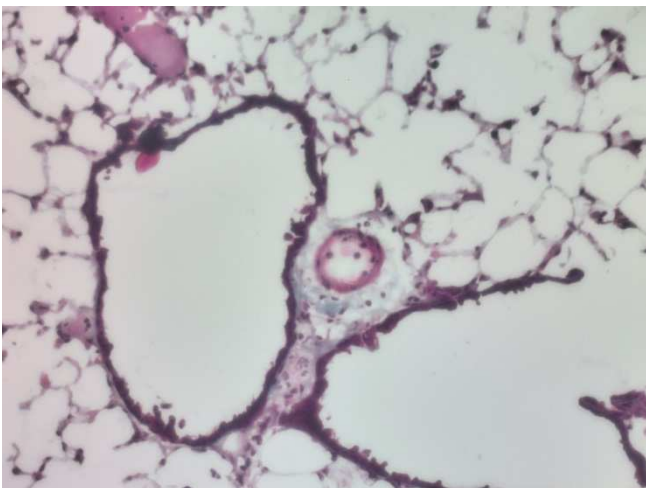
BM only



BM + T cells + vehicle



BM + T cells + ruxolitinib



Supplementary material and Figure legends

Suppl. Figure 1:

C57B/6 T-cell-depleted bone marrow with (BM+T) or without (BM Only) 85,000 purified C57B/6 T cells was injected to conditioned B10.BR recipient mice. From day 28-56, cGVHD mice were treated with 30mg/kg Ruxolitinib or vehicle. Day 60 pulmonary function test was taken on anesthetized animals. Animals (n=6) were artificially ventilated. Resistance, Elastance and Compliance were measured as indicators of pulmonary function.

Suppl. Figure 2:

Histological analysis of the lungs of mice treated as described for Suppl. Figure 1 is shown. The trichrome positive area represents collagen deposition as a stigmata of chronic pulmonary GVHD. Representative images from the 3 groups and a quantification of the trichrome positive area are shown.

Supplementary Table 1: Acute GvHD group - Transplant characteristics

Donor	Chemotherapy conditioning	IS as prophylaxis	IS initiated as GvHD treatment prior to Ruxolitinib (duration in weeks)
MUD	TBI (12Gy) etoposide	CYA , MTX	- steroids (4) - CYA (3) - Eve (2) - ECP (3)
MUD	FLu/TT	CYA, alemtuzumab	- steroids (18) - MMF (4) - CYA (4) - Eve (9) - ECP (11)
MUD	FBM	CYA, alemtuzumab	- steroids (31) - UVB radiation (5) - MMF (4) - MTX (2) - CYA (7) - Eve (5) - ECP (9)
MUD	FBM	CYA alemtuzumab	- steroids (29) - Eve (8) - CYA (13) - ECP (7)
MUD	FBM	CYA alemtuzumab	- CYA - Eve (6) - ECP (4)
MMUD	FBM	CYA alemtuzumab	- steroids (80) - CYA (80) - MTX (20)
MUD	FBM	CYA alemtuzumab	- steroids (3) - ECP (1)
sibling	Flu/TT	CYA MTX	- steroids (52) - CYA - Eve (52) - ECP (1)
MMUD	FBM	CYA alemtuzumab	- steroids (200) - CYA - Eve
MUD	TBF	CYA MMF ATG	- steroids (28) - CYA (24) - ECP (2)
MMUD	TBI etoposide	CYA MMF ATG	- steroids (6) - CYA (4) - MMF (4) - ATG (4)
MMUD	TBF	MMF CYA ATG	- steroids (11) - CYA (11) - Eve (11) - ECP (2)
MUD	FBM	CYA MMF ATG	- steroids (4) - CYA (4) - Eve (5)
sibling	Flu/Bu	MMF CYA	- steroids (12) - CYA (4) - Tac (5)
MUD	FLu/TT	CYA MMF ATG	- steroids (3)
MMUD	FBM	CYA MMF alemtuzumab	- steroids (28) - ECP (8)
MUD	FLu/TT	CYA , MMF, ATG	- steroids (3) - MMF (3)

			- CYA (5)
sibling	Bu/Cy	CYA , MTX	- CYA - MMF - steroids - ECP (6) - rituximab (1)
MMUD	FLu / TT / Busulfan	ATG/CYA / MMF	- CYA (ca 24) - steroids (ca 24) - ATG 2x - MMF
MMUD	FLu / TT / Busulfan	ATG/CYA / MMF	- CYA (6) - steroids (4)
MUD	FLu / TT / Busulfan	ATG/CYA / MMF	- CYA (2) - steroids (3)
sibling	FBM	CYA /MMF	- CYA (4) - MMF (4) - steroids (3)
MMUD	FBM	CYA /MMF/ATG	- CYA (5) - steroids (4)
MUD	FBM	CYA /MMF/alemtuzumab	- CYA (7) - Eve (4) - steroids (8) - ECP (4)
sibling	TBF	CYA /MMF	- CYA (5) - steroids (7)
sibling	Flu Mel	ATG/CYA /MTX	- steroids (6) - Tac (4) - alemtuzumab 1x
MMUD (9/10, HLA-A MM)	Cy TBI	ATG/CYA /MTX	- steroids (7)/ 2x - Tac (6) - alemtuzumab 2x - rituximab 2x
MUD	Flu TBI	CYA /MMF	- steroids (6) - alemtuzumab 1x
sibling	Flu TBI	CYA /MMF	- steroids (7) - CYA (2) - Tac (5)
MUD	BCNU/Etoposide/ ARA-C/Mel/Flu	ATG/CYA /MTX	- steroids (48) - ECP (26)
sibling	Flu Mel	CYA /MMF	- CYA (13) - steroids (10) - MMF (13) - pentostatin (2 cycles) - MSC (2) - ECP (1)
MUD	Flu Bu	CYA MMF	- steroids (34) - Tac (33) - Eve (2) - etanercept (9)
MUD	Flu Mel	CYA MMF	- steroids (20) - ATG (1) - CYA (20) - etanercept (6)
sibling	Flu Mel	CYA , MTX	- steroids (20) - CYA
sibling	FB	CYA , MTX	- steroids (28) - CYA (8) - Eve (16) - MMF (8) - MSC (1) - ECP (16)
HLA-A mis MMUD	TBI (12Gy)/Cy/ATG	CYA , MMF	- CYA , MMF (3) - steroids (1) - basiliximab (1)
(HLA-A)	Flu Bu	CYA , MMF, ATG	- CYA

MMUD			<ul style="list-style-type: none"> - steroids - basiliximab - ATG
MMUD	Bu Cy	MMF, Tac, ATG	<ul style="list-style-type: none"> - steroids - Tac - basiliximab - alemtuzumab (3 doses) - etanercept (7) - Eve (6)
MUD 10/10	FLAMSA-Mel,	MMF, Tac, ATG	<ul style="list-style-type: none"> - steroids - Tac - Etanercept (14) - alemtuzumab (3 doses) - ECP (5) - Sir
MUD 10/10	ofatumumab Flu Bu	MMF, Tac, ATG	<ul style="list-style-type: none"> - steroids - Eve (5) - etanercept (5) - alemtuzumab (1)
MUD 10/10	Cy-TBI	MMF, Tac Switch to MMF, CYA , ATG	<ul style="list-style-type: none"> - steroids (4) - etanercept (5) - basiliximab - alemtuzumab (twice, once afterwards)
MUD 10/10	Cy-TBI	MMF, Tac, ATG	<ul style="list-style-type: none"> - steroids (4) - etanercept (5) - basiliximab
URD	TLI	CYA , MMF, ATG	<ul style="list-style-type: none"> - steroids (11) - budesonide (4) - etanercept (4)
sibling	BuFlu-ATG	CYA , MMF	<ul style="list-style-type: none"> - CYA (8) - steroids (8)
MUD	TBI (12Gy), etoposide, Cy – alemtuzumab	CYA	<ul style="list-style-type: none"> - CYA (2) - steroids (2) - MMF (2)
MMUD	FBM	CYA , MMF	<ul style="list-style-type: none"> - steroids - ECP
sibling	Flu 30 mg/m2 day -4 to -2 TBI (2 Gy) day -1	CYA , MMF	<ul style="list-style-type: none"> - steroids - Tac
sibling	Flu 30 mg/m2 day -4 to -2 TBI (2 Gy) day -1	CYA , MMF	<ul style="list-style-type: none"> - steroids - CYA
Haplo	Flu/TT/Bu	CYA , MMF, post Tx Cy	<ul style="list-style-type: none"> - steroids (2)
MUD	Flu/Bu	ATG, CYA , MTX	<ul style="list-style-type: none"> - steroids (7)
MUD	Cy120/Bu16	ATG, CYA /TAC, MTX	<ul style="list-style-type: none"> - steroids (2.5)
MUD	ATG/ Flu/ Melphalan	CYA , MMF	<ul style="list-style-type: none"> - Msc HOVON 112 (3) - Msc off protocol (3) - etanercept (8) - steroids (40)
MUD	Flu/Bu/ATG	Sir/MMF	<ul style="list-style-type: none"> - steroids - Eve - alemtuzumab - MMF
MMUD	Flu/Bu/ATG	CYA /MMF	<ul style="list-style-type: none"> - steroids - CYA

			- MMF
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IS = immunosuppression, sibling = sibling donor (matched related donor), MUD = matched unrelated donor, MMUD = mismatched unrelated donor, Haplo = Haploidentical donor, PB = peripheral blood stem cells, BM = Bone marrow, TLI = Total lymphoid irradiation, Bu = busulfan, Cy = cyclophosphamide, Flu = fludarabine, FBM = fludarabine/melphalan/BCNU, FLu / TT / Busulfan = fludarabine/thiotepa/busulfan, ATG = anti-thymocyte globuline, Thymo = thymoglobuline, TBI = total body irradiation, post Tx Cy = post-transplant cyclophosphamide, ECP = extracorporeal photophoresis, CYA = cyclosporine A, MMF = mycophenolate mofetil, MTX = methotrexate, Tac = tacrolimus, Sir = sirolimus, TBF = thiotepa, fludarabine, busulfan

Suppl. Table 2: Chronic GvHD - Transplant characteristics

Donor	Chemotherapy conditioning	IS as prophylaxis	IS initiated as GvHD treatment prior to Ruxolitinib (duration in weeks)
MMUD	FBM	CYA alemtuzumab	- steroids (144) - CYA (144) - ECP (19)
sibling	Flu/Treo	CYA MMF	- steroids (106) - CYA (74)
MUD	FBM	CYA alemtuzumab	- steroids (47) - ECP (2)
sibling	FBM	CYA MTX	- steroids (9) - CYA (7)
sibling	BuCy	CYA MTX	- steroids (28) - ECP (25) - cyclophosphamide (1)
sibling	BuCy	CYA MTX	- steroids (13) - ECP (2) - CYA (6)
MUD	FLAMSA/Treo	CYA MMF	- steroids (163) - MMF (133) - Tac (129) - ECP (125) - MTX (4)
sibling	Flu/Bu	CYA /MTX	- CYA (102) - steroids (76) - ECP (24)
MUD	FluBu	Tac/MMF	- Tac - steroids - rituximab - MMF
MUD	FluTreo	CYA/MMF	- steroids - MMF - CYA
Sibling	Flu/Treo	CYA , MMF	- steroids (44) - Sir (4) - CYA (16) - MMF (61) - MTX (4)
MMUD	Flu/Mel	CYA /MMF	- steroids (80) - MTX (4) - etanercept (4)
sibling	Flu/Treo	CYA /MMF	- steroids (100) - Sir (6) - MTX (24) - ECP
MUD	Flu/Treo	CYA /MMF	- steroids (110) - Sir (6) - MTX (3) - etanercept (4)
sibling	TBI (10Gy) Flu	CYA , MTX	- ECP

			<ul style="list-style-type: none"> - steroids - Tac - MMF - beta-HCG - IL-2 - budesonid
MUD	TBI (10Gy) Cy	CYA , MTX	<ul style="list-style-type: none"> - ECP - steroids - Eve - MMF - CYA
sibling	Treo/ Flu	CYA , MTX	<ul style="list-style-type: none"> - steroids - MMF - Tac
MUD	FB-8	CYA , MTX	<ul style="list-style-type: none"> - steroids (6 years low dose) - MTX (8) - CYA (32) - Tac (72) - MMF (32) - Eve (32) - MSC (4) - rituximab (4) - ECP (4 years on off)
MUD	etoposide/12Gy TBI	CYA , MTX	<ul style="list-style-type: none"> - steroids (2 years) - CYA (12) - Tac (64) - MMF (48) - Sir (48) - ECP (28) - IL2 (16) - imatinib (4) - rituximab (4)
MUD	Flu/Mel	CYA ,MTX	<ul style="list-style-type: none"> - steroids (48) - CYA (4) - Tac (48) - MSC (4) - ECP (48)
MUD	Flu/Mel	CYA ,MTX	<ul style="list-style-type: none"> - steroids - CYA - Tac - ECP
MUD	ATG, Bu, Flu	CYA , MMF, Ig-s	<ul style="list-style-type: none"> - Tac (14) - steroids (6) - ECP(6)
MMUD	Ara-C, BCNU, Flu, ATG, etoposide, Mel, TBI	CYA , MMF, Ig-s	<ul style="list-style-type: none"> - CYA (35) - steroids (35)
Sibling (2003) Sibling (2012)	Flu/Treo	CYA , MMF, Ig-s	<ul style="list-style-type: none"> - CYA (22) - steroids (15.5)
MUD (2009) MUD (2014)	ATG, Bu, Flu	CYA , MMF, Ig-s	<ul style="list-style-type: none"> - CYA (180) - ECP (27) - steroids (48)
MUD	FLAMSA-Treo	MMF, Tac	<ul style="list-style-type: none"> - steroids (141) - Tac (141)
sibling	Flu, Treo	MMF,CYA	<ul style="list-style-type: none"> - steroids (126) - Sir(48) - Eve (78) - ECP (30) - PUVA (3)
sibling	12Gy TBI, Cy	CYA , MTX	<ul style="list-style-type: none"> - steroids (330) - MMF (309) - UVA (11) - ECP (36) - imatinib (214) - thalidomide (2)

MUD	8Gy TBI, Flu	CYA , MTX	- steroids (33) - MMF (31) - ECP (8) - CYA (4)
sibling	Flu, BCNU, Mel	CYA , MTX	- FK506 (19) - steroids (19)
Haplo	8Gy TBI, Flu, ATG		- steroids (65) - MMF (61) - ECP (56)
sibling	8Gy TBI, Flu, ATG	CYA , MTX	- MMF (70) - steroids (55) - ECP (28)
sibling	4Gy TBI, Flu, Cy	CYA , MMF	- MMF (154) - steroids (53) - UVA (4)
sibling	Flu, BCNU, Mel	CYA , MTX	- MMF (17) - steroids (26) - UVA (3)
MUD	Flu, Bu	CYA , MTX	- steroids (308) - MMF (303) - ECP (9)
MMUD	Flu, BCNU, Mel	CYA , MMF	- CYA /Tac (18) - steroids (18) - MMF (10) - ECP (9)
MUD	Flu, BCNU, Mel + 4Gy TBI	CYA , MTX	- steroids (7) - MMF (2) - UVA (0,3)
sibling	Flu/TBI, 2Gy ATG/Flu/Mel	CYA, MMF	- nilotinib - steroids
MMUD	Flu/Bu/ATG	CYA, MMF	- CYA - MMF - steroids - Eve - MTX - rituximab - ECP
sibling	Flu/Mel	CYA , Sir, MMF, steroids	- CYA - MMF - steroids - Sir - Eve - MTX - rituximab - ECP
sibling	TBI/etoposide	CYA , MTX	- CYA - MTX - steroids - Eve - ECP

IS = immunosuppression, sibling = sibling donor (matched related donor), MUD = matched unrelated donor, MMUD = mismatched unrelated donor, Haplo = haploidentical donor, MMF: mycophenolate mofetil, MTX = methotrexate, CYA = Cyclosporine A, Flu = fludarabine, Tac = tacrolimus, Eve = everolimus, Sir = sirolimus, ECP = extracorporeal photopheresis, TBI = total body irradiation, Treo = treosulfan, Mel = melphalan, Eto = etoposide, Bu = busulfan MSC = mesenchymal strom cells, Ig-s = immunoglobulins, FBM = fludarabine/melphalan/BCNU