

**Supplementary Table 2**

<u>Patient</u>	<u>Diagnosis or Relapse Sample</u>	<u>Primary Xenograft</u>	<u>Tissue</u>	<u>Targeted Sequencing</u>	<u>RNA Sequencing</u>	<u>Secondary Engraftment Experiments</u>	<u>Tertiary Engraftment Experiments</u>	<u>Proteomics</u>
Patient 1	Diagnosis	dxeno 1	BM	yes				
Patient 1	Diagnosis	dxeno 1	CNS	yes				
Patient 1	Diagnosis	dxeno 2	BM	yes				
Patient 1	Diagnosis	dxeno 2	CNS	yes				
Patient 1	Diagnosis	dxeno 8	BM	yes				
Patient 1	Diagnosis	dxeno 8	CNS	yes				
Patient 1	Diagnosis	dxeno 11	BM	yes				
Patient 1	Diagnosis	dxeno 11	CNS	yes				
Patient 1	Diagnosis	dxeno 12	BM	yes				
Patient 1	Diagnosis	dxeno 12	CNS	yes				
Patient 1	Diagnosis	dxeno 13	BM	yes				
Patient 1	Diagnosis	dxeno 13	CNS	yes				
Patient 1	Relapse	rxeno 8	BM	yes				
Patient 1	Relapse	rxeno 8	CNS	yes				
Patient 1	Relapse	rxeno 11	BM	yes				
Patient 1	Relapse	rxeno 11	CNS	yes				
Patient 1	Relapse	rxeno 12	BM	yes				
Patient 1	Relapse	rxeno 12	CNS	yes				
Patient 1	Relapse	rxeno 15	BM	yes				
Patient 1	Relapse	rxeno 15	CNS	yes				
Patient 1	Relapse	rxeno 16	BM	yes				
Patient 1	Relapse	rxeno 16	CNS	yes				
Patient 1	Relapse	rxeno 18	BM	yes				
Patient 1	Relapse	rxeno 18	CNS	yes				
Patient 1	Relapse	rxeno 20	BM	yes				
Patient 1	Relapse	rxeno 20	CNS	yes				
Patient 3	Relapse	rxeno 2	BM	yes				
Patient 3	Relapse	rxeno 2	CNS	yes				
Patient 3	Relapse	rxeno 4	BM	yes				
Patient 3	Relapse	rxeno 4	CNS	yes				
Patient 3	Relapse	rxeno 5	BM	yes				
Patient 3	Relapse	rxeno 5	CNS	yes				
Patient 3	Relapse	rxeno 7	BM	yes				
Patient 3	Relapse	rxeno 7	CNS	yes				
Patient 3	Relapse	rxeno 10	BM	yes				
Patient 3	Relapse	rxeno 10	CNS	yes				
Patient 4	Diagnosis	dxeno 2	BM	yes				
Patient 4	Diagnosis	dxeno 2	CNS	yes				
Patient 4	Diagnosis	dxeno 3	BM	yes				
Patient 4	Diagnosis	dxeno 3	CNS	yes				
Patient 4	Relapse	rxeno 2	BM	yes				
Patient 4	Relapse	rxeno 2	CNS	yes				
Patient 4	Relapse	rxeno 3	BM	yes				
Patient 4	Relapse	rxeno 3	CNS	yes				
Patient 4	Relapse	rxeno 4	BM	yes				
Patient 4	Relapse	rxeno 4	CNS	yes				
Patient 4	Relapse	rxeno 5	BM	yes				
Patient 4	Relapse	rxeno 5	CNS	yes				
Patient 4	Relapse	rxeno 7	BM	yes				
Patient 4	Relapse	rxeno 7	CNS	yes				
Patient 4	Relapse	rxeno 8	BM	yes				
Patient 4	Relapse	rxeno 8	CNS	yes				
Patient 4	Relapse	rxeno 9	BM	yes				
Patient 4	Relapse	rxeno 9	CNS	yes				
Patient 4	Relapse	rxeno 10	BM	yes				
Patient 4	Relapse	rxeno 10	CNS	yes				
Patient 4	Relapse	rxeno 11	BM	yes				
Patient 4	Relapse	rxeno 11	CNS	yes				
Patient 6	Relapse	rxeno 2	BM	yes				
Patient 6	Relapse	rxeno 2	CNS	yes				
Patient 6	Relapse	rxeno 3	BM	yes			yes	

Patient 6	Relapse	rxeno 3	CNS	yes				
Patient 6	Relapse	rxeno 4	BM	yes	yes			
Patient 6	Relapse	rxeno 4	CNS	yes	yes			
Patient 6	Relapse	rxeno 9	BM		yes			
Patient 6	Relapse	rxeno 9	CNS		yes			
Patient 7	Diagnosis	dxeno 3	BM	yes	yes			
Patient 7	Diagnosis	dxeno 3	CNS	yes	yes			
Patient 7	Diagnosis	dxeno 5	BM	yes				
Patient 7	Diagnosis	dxeno 5	CNS	yes				
Patient 7	Diagnosis	dxeno 8	BM				yes	
Patient 7	Diagnosis	dxeno 12	BM	yes				
Patient 7	Diagnosis	dxeno 12	CNS	yes				
Patient 7	Relapse	rxeno 1	BM	yes	yes			
Patient 7	Relapse	rxeno 1	CNS	yes	yes			
Patient 7	Relapse	rxeno 2	BM	yes	yes			
Patient 7	Relapse	rxeno 2	CNS	yes	yes			
Patient 7	Relapse	rxeno 3	BM	yes				
Patient 7	Relapse	rxeno 3	CNS	yes				
Patient 7	Relapse	rxeno 4	BM	yes	yes			
Patient 7	Relapse	rxeno 4	CNS	yes	yes			
Patient 7	Relapse	rxeno 5	BM	yes	yes			
Patient 7	Relapse	rxeno 5	CNS	yes	yes			
Patient 7	Relapse	rxeno 6	BM	yes	yes			
Patient 7	Relapse	rxeno 6	CNS	yes	yes			
Patient 7	Relapse	rxeno 7	BM	yes				
Patient 7	Relapse	rxeno 7	CNS	yes				
Patient 7	Relapse	rxeno 8	BM	yes				
Patient 7	Relapse	rxeno 8	CNS	yes				
Patient 7	Relapse	rxeno 10	BM	yes	yes			
Patient 7	Relapse	rxeno 10	CNS	yes	yes			
Patient 7	Relapse	rxeno 11	BM	yes	yes			
Patient 7	Relapse	rxeno 11	CNS	yes	yes			
Patient 7	Relapse	rxeno 12	BM	yes	yes			
Patient 7	Relapse	rxeno 12	CNS	yes	yes			
Patient 7	Relapse	rxeno 20	BM	yes	yes			
Patient 7	Relapse	rxeno 20	CNS	yes	yes			
Patient 9	Diagnosis	dxeno 5	BM	yes				
Patient 9	Diagnosis	dxeno 5	CNS	yes				
Patient 9	Relapse	rxeno 1	BM	yes				
Patient 9	Relapse	rxeno 1	CNS	yes				
Patient 10	Relapse	rxeno 2	BM	yes				
Patient 10	Relapse	rxeno 2	CNS	yes				
Patient 10	Relapse	rxeno 3	BM	yes				
Patient 10	Relapse	rxeno 3	CNS	yes				
Patient 10	Relapse	rxeno 4	BM	yes				
Patient 10	Relapse	rxeno 4	CNS	yes				
Patient 10	Relapse	rxeno 12	BM	yes				
Patient 10	Relapse	rxeno 12	CNS	yes				
Patient 11	Diagnosis	dxeno 1	BM	yes				yes
Patient 11	Diagnosis	dxeno 1	CNS	yes				yes
Patient 11	Diagnosis	dxeno 2	BM	yes	yes	yes		yes
Patient 11	Diagnosis	dxeno 2	CNS		yes	yes		yes
Patient 11	Diagnosis	dxeno 3	BM	yes				
Patient 11	Diagnosis	dxeno 3	CNS	yes				
Patient 11	Diagnosis	dxeno 4	BM	yes		yes		
Patient 11	Diagnosis	dxeno 4	CNS	yes		yes		
Patient 11	Diagnosis	dxeno 5	BM	yes				yes
Patient 11	Diagnosis	dxeno 5	CNS					yes
Patient 11	Diagnosis	dxeno 6	BM	yes	yes			
Patient 11	Diagnosis	dxeno 6	CNS	yes	yes			
Patient 11	Diagnosis	dxeno 7	BM	yes				
Patient 11	Diagnosis	dxeno 7	CNS	yes				
Patient 11	Diagnosis	dxeno 8	BM	yes	yes			
Patient 11	Diagnosis	dxeno 8	CNS	yes	yes			
Patient 11	Diagnosis	dxeno 9	BM	yes				
Patient 11	Diagnosis	dxeno 9	CNS	yes				

Patient 11	Diagnosis	dxeno 10	BM	yes				
Patient 11	Diagnosis	dxeno 10	CNS					
Patient 11	Diagnosis	dxeno 11	BM	yes	yes			yes
Patient 11	Diagnosis	dxeno 11	CNS	yes	yes			yes
Patient 11	Diagnosis	dxeno 12	BM	yes	yes			
Patient 11	Diagnosis	dxeno 12	CNS		yes			
Patient 11	Relapse	rxeno 1	BM	yes	yes	yes		
Patient 11	Relapse	rxeno 1	CNS	yes	yes	yes		
Patient 11	Relapse	rxeno 2	BM	yes				
Patient 11	Relapse	rxeno 2	CNS	yes				
Patient 11	Relapse	rxeno 3	BM	yes	yes	yes		
Patient 11	Relapse	rxeno 3	CNS	yes	yes	yes		
Patient 11	Relapse	rxeno 4	BM	yes				
Patient 11	Relapse	rxeno 4	CNS	yes				
Patient 11	Relapse	rxeno 5	BM	yes	yes			
Patient 11	Relapse	rxeno 5	CNS	yes	yes			
Patient 11	Relapse	rxeno 6	BM	yes				
Patient 11	Relapse	rxeno 6	CNS	yes				
Patient 11	Relapse	rxeno 7	BM	yes				
Patient 11	Relapse	rxeno 7	CNS	yes				
Patient 11	Relapse	rxeno 8	BM	yes				
Patient 11	Relapse	rxeno 8	CNS	yes				
Patient 11	Relapse	rxeno 9	BM	yes				
Patient 11	Relapse	rxeno 9	CNS	yes				
Patient 11	Relapse	rxeno 10	BM	yes	yes			
Patient 11	Relapse	rxeno 10	CNS	yes	yes			
Patient 11	Relapse	rxeno 11	BM	yes				
Patient 11	Relapse	rxeno 11	CNS	yes				
Patient 11	Relapse	rxeno 12	BM	yes				
Patient 11	Relapse	rxeno 12	CNS					
Patient 12	Diagnosis	dxeno 1	BM	yes				yes
Patient 12	Diagnosis	dxeno 1	CNS	yes				yes
Patient 12	Diagnosis	dxeno 2	BM	yes	yes			
Patient 12	Diagnosis	dxeno 2	CNS	yes	yes			
Patient 12	Diagnosis	dxeno 3	BM	yes	yes	yes		
Patient 12	Diagnosis	dxeno 3	CNS	yes	yes	yes		
Patient 12	Diagnosis	dxeno 4	BM	yes				yes
Patient 12	Diagnosis	dxeno 4	CNS	yes				yes
Patient 12	Diagnosis	dxeno 5	BM	yes				yes
Patient 12	Diagnosis	dxeno 5	CNS	yes				yes
Patient 12	Diagnosis	dxeno 6	BM	yes	yes	yes		
Patient 12	Diagnosis	dxeno 6	CNS	yes	yes	yes		
Patient 12	Diagnosis	dxeno 7	BM	yes	yes			
Patient 12	Diagnosis	dxeno 7	CNS	yes	yes			
Patient 12	Diagnosis	dxeno 8	BM	yes				
Patient 12	Diagnosis	dxeno 8	CNS	yes				
Patient 12	Diagnosis	dxeno 9	BM	yes	yes			
Patient 12	Diagnosis	dxeno 9	CNS	yes	yes			
Patient 12	Diagnosis	dxeno 10	BM	yes	yes			
Patient 12	Diagnosis	dxeno 10	CNS	yes	yes			
Patient 12	Diagnosis	dxeno 11	BM	yes				
Patient 12	Diagnosis	dxeno 11	CNS					
Patient 12	Diagnosis	dxeno 13	BM	yes				
Patient 12	Diagnosis	dxeno 13	CNS	yes				
Patient 12	Diagnosis	dxeno 16	BM	yes	yes			
Patient 12	Diagnosis	dxeno 16	CNS		yes			
Patient 12	Diagnosis	dxeno 17	BM	yes	yes			
Patient 12	Diagnosis	dxeno 17	CNS	yes	yes			
Patient 12	Diagnosis	dxeno 31	BM	yes	yes			
Patient 12	Diagnosis	dxeno 31	CNS	yes	yes			Secondaries x 5
Patient 12	Diagnosis	dxeno 32	BM	yes				
Patient 12	Diagnosis	dxeno 32	CNS	yes				
Patient 12	Relapse	rxeno 1	BM	yes	yes	yes		
Patient 12	Relapse	rxeno 1	CNS	yes	yes			
Patient 12	Relapse	rxeno 2	BM	yes	yes			
Patient 12	Relapse	rxeno 2	CNS	yes	yes			

Patient 12	Relapse	rxeno 3	BM	yes	yes		
Patient 12	Relapse	rxeno 3	CNS	yes	yes		
Patient 12	Relapse	rxeno 4	BM	yes	yes		
Patient 12	Relapse	rxeno 4	CNS	yes	yes		
Patient 12	Relapse	rxeno 5	BM	yes	yes		
Patient 12	Relapse	rxeno 5	CNS	yes	yes		
Patient 12	Relapse	rxeno 6	BM	yes			
Patient 12	Relapse	rxeno 6	CNS				
Patient 12	Relapse	rxeno 7	BM	yes			
Patient 12	Relapse	rxeno 7	CNS	yes			
Patient 12	Relapse	rxeno 8	BM	yes			
Patient 12	Relapse	rxeno 8	CNS	yes			
Patient 12	Relapse	rxeno 9	BM	yes	yes		
Patient 12	Relapse	rxeno 9	CNS	yes	yes		
Patient 12	Relapse	rxeno 10	BM	yes	yes		
Patient 12	Relapse	rxeno 10	CNS	yes	yes		
Patient 12	Relapse	rxeno 11	BM	yes	yes		
Patient 12	Relapse	rxeno 11	CNS	yes	yes		
Patient 12	Relapse	rxeno 12	BM	yes	yes	yes	
Patient 12	Relapse	rxeno 12	CNS	yes	yes	yes	
Patient 13	Diagnosis	dxeno 1	BM	yes	yes		
Patient 13	Diagnosis	dxeno 1	CNS	yes	yes		
Patient 13	Diagnosis	dxeno 2	BM	yes			
Patient 13	Diagnosis	dxeno 2	CNS	yes			
Patient 13	Diagnosis	dxeno 3	BM	yes			
Patient 13	Diagnosis	dxeno 3	CNS	yes			
Patient 13	Diagnosis	dxeno 4	BM	yes			
Patient 13	Diagnosis	dxeno 4	CNS	yes			
Patient 13	Diagnosis	dxeno 5	BM	yes			
Patient 13	Diagnosis	dxeno 5	CNS	yes			
Patient 13	Diagnosis	dxeno 6	BM	yes			
Patient 13	Diagnosis	dxeno 6	CNS	yes			
Patient 13	Relapse	rxeno 1	BM	yes			
Patient 13	Relapse	rxeno 1	CNS	yes			
Patient 13	Relapse	rxeno 2	BM	yes			
Patient 13	Relapse	rxeno 2	CNS	yes			
Patient 13	Relapse	rxeno 3	BM	yes			
Patient 13	Relapse	rxeno 3	CNS	yes			
Patient 13	Relapse	rxeno 6	BM	yes			
Patient 13	Relapse	rxeno 6	CNS	yes			
Patient 13	Relapse	rxeno 7	BM	yes			
Patient 13	Relapse	rxeno 7	CNS	yes			
Patient 13	Relapse	rxeno 9	BM	yes			
Patient 13	Relapse	rxeno 9	CNS	yes			
Patient 13	Relapse	rxeno 12	BM	yes			
Patient 13	Relapse	rxeno 12	CNS	yes			
Patient 15	Diagnosis	xeno 1	BM			yes	yes
Patient 15	Diagnosis	xeno 1	CNS				yes
Patient 15	Diagnosis	xeno 2	BM		yes	yes	yes
Patient 15	Diagnosis	xeno 2	CNS		yes		yes
Patient 15	Diagnosis	xeno 3	BM				yes
Patient 15	Diagnosis	xeno 3	CNS				yes
Patient 15	Diagnosis	xeno 4	BM				yes
Patient 15	Diagnosis	xeno 4	CNS				yes
Patient 15	Diagnosis	xeno 5	BM		yes		yes
Patient 15	Diagnosis	xeno 5	CNS		yes	yes	yes
Patient 15	Diagnosis	xeno 6	BM		yes		yes
Patient 15	Diagnosis	xeno 6	CNS		yes		yes
Patient 15	Diagnosis	secondaries	CNS				Secondaries x 5

Supplementary Table 2. B-ALL xenografts used in current study. Patient sample, diagnosis / relapse status, xenograft number, tissue site (BM or CNS) are listed, along with technical methods applied to each xenograft. ‘Secondaries’ refers to the re-engraftment of cells that are derived from a primary xenograft and have therefore had one passage in an NSG mouse. ‘Tertiary’ refers to the re-engraftment of cells that are derived from a primary xenograft and have therefore had two passages in an NSG mouse.