Claims:

1. A method of generating a cell of the T cell lineage comprising (a) culturing a sample comprising stem cells or progenitor cells with a soluble multispecific ligand comprising a Notch ligand operably linked to a functional protein partner (FPP) that binds a surface molecule on the stem cells or progenitor cells, and (b) isolating a cell of the T cell lineage.

2. The method of claim 1, wherein the stem cells or progenitor cells are cultured with the multispecific ligand in suspension, in stromal cell-free media, or both.

3. The method of claim 1 or 2, wherein the Notch ligand comprises an extracellular domain of Delta-like-1 (DLL1) or of Delta-like-4 (DLL4).

4. The method of any one of claims 1 to 3, wherein the FPP comprises stem cell factor (SCF), interleukin-7 (IL-7), FMS-related tyrosine kinase 3 ligand (FLt3-L), intercellular adhesion molecule 1 (ICAM-1), vascular cell adhesion molecule (VCAM-1), or P-Selectin.

5. The method of any one of claims 1 to 4, wherein the Notch ligand further comprises a fragment crystallizable (Fc) region of human IgG (Notch ligand-Fc), the FPP further comprises an Fc region of human IgG, or both.

6. The method of any one of claims 1 to 5, wherein the multispecific ligand further comprises a linker between the Notch ligand and the FPP.

7. The method of claim 6, wherein the multispecific ligand comprises i) the Notch ligand-Fc, ii) the linker, and iii) the FPP.

8. The method of claim 7, wherein the Notch ligand comprises an extracellular domain of Delta-like-4 (DLL4) and the FPP comprises stem cell factor (SCF).

9. The method of claim 8, wherein the multispecific ligand comprises the amino acid sequence of SEQ ID No: 1, SEQ ID No: 2 or SEQ ID No: 3, or a functional variant thereof.

10. The method of any one of claims 5 to 8, wherein the multispecific ligand comprises a Notch ligand-Fc and an FPP-Fc.

11. The method of any one of claims 1 to 9, wherein the Notch ligand is fused or conjugated to the FPP.

12. The method of claim 11, wherein the Notch ligand and the FPP are both biotinylated and are both conjugated to a same streptavidin molecule.

13. The method of any one of claims 1 to 12, wherein the stem cells are selected from hematopoietic stem/progenitor cells (HSPCs), embryonic stem cells, CD34+ HSPCs, or induced pluripotent stem cells.

14. The method of any one of claims 1 to 13, wherein the cell of the T cell lineage is a progenitor T (proT) cell, a CD4+CD8+ double positive cell, a CD4+CD8+CD3+ double positive cell, a CD8+CD3+ single positive cell, or a CD4+CD3+ single positive cell.

15. The method of any one of claims 1 to 14 , wherein the stem cells or progenitor cells are cultured in stromal cell-free media.