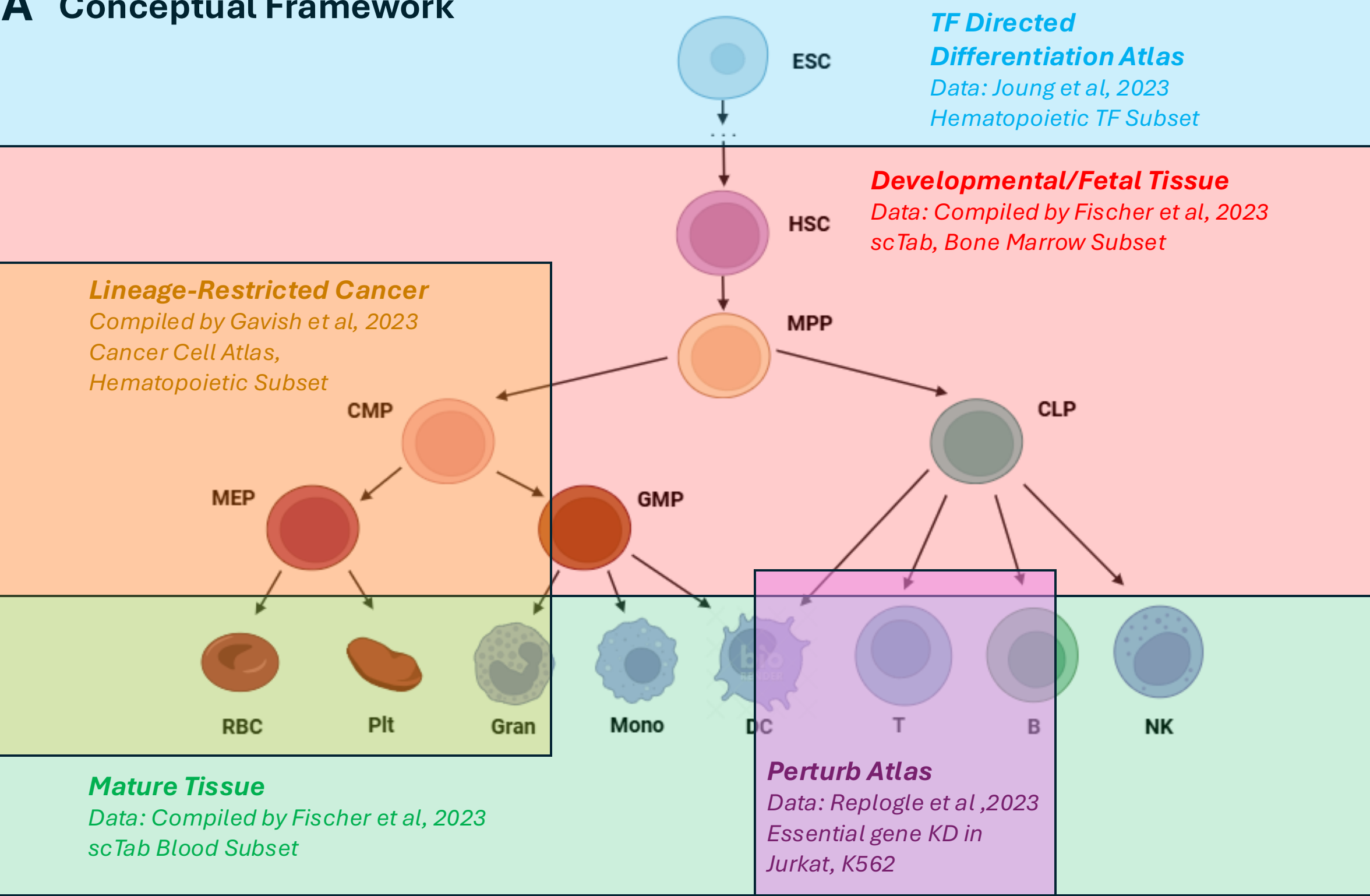
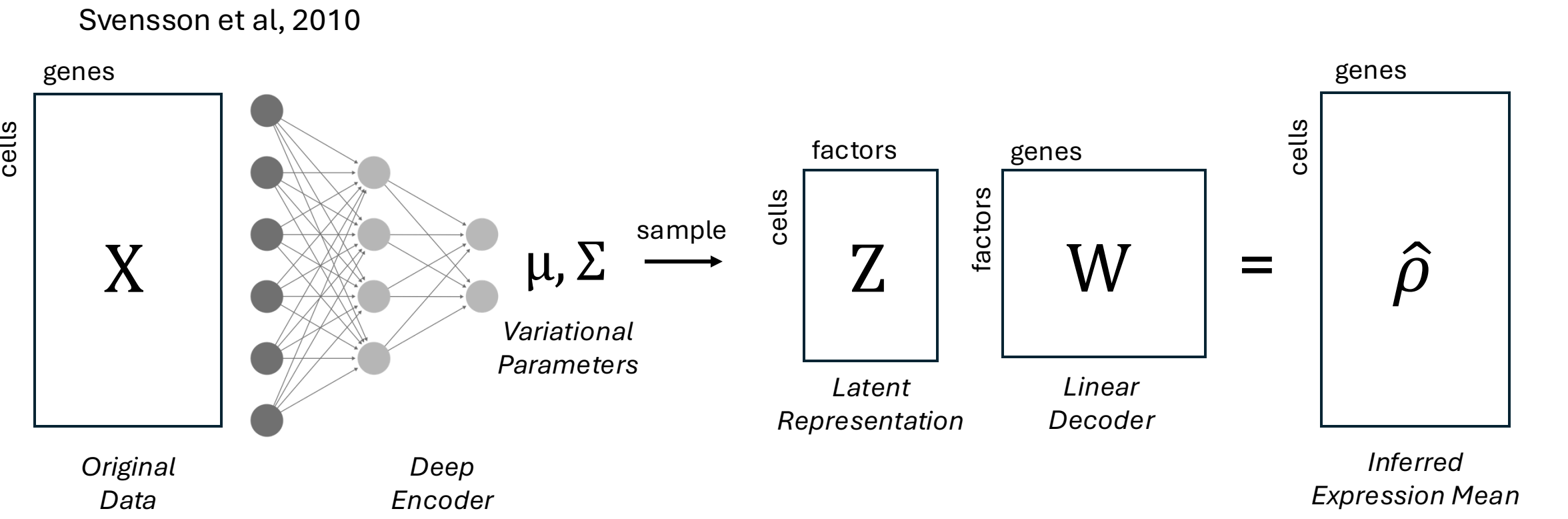


A Conceptual Framework



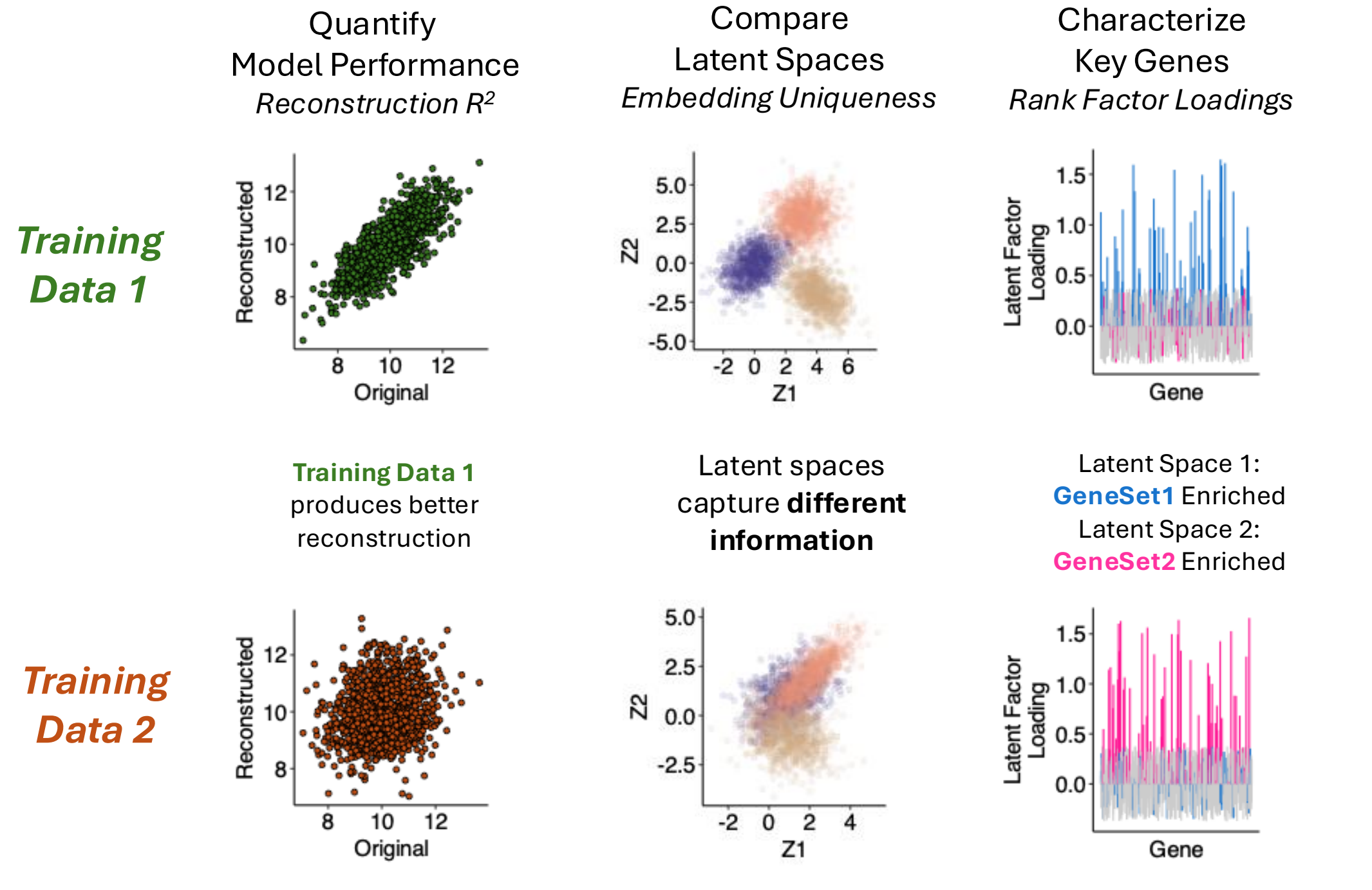
B Model Architecture: Linearly Decoded Variational Autoencoder (LDVAE)

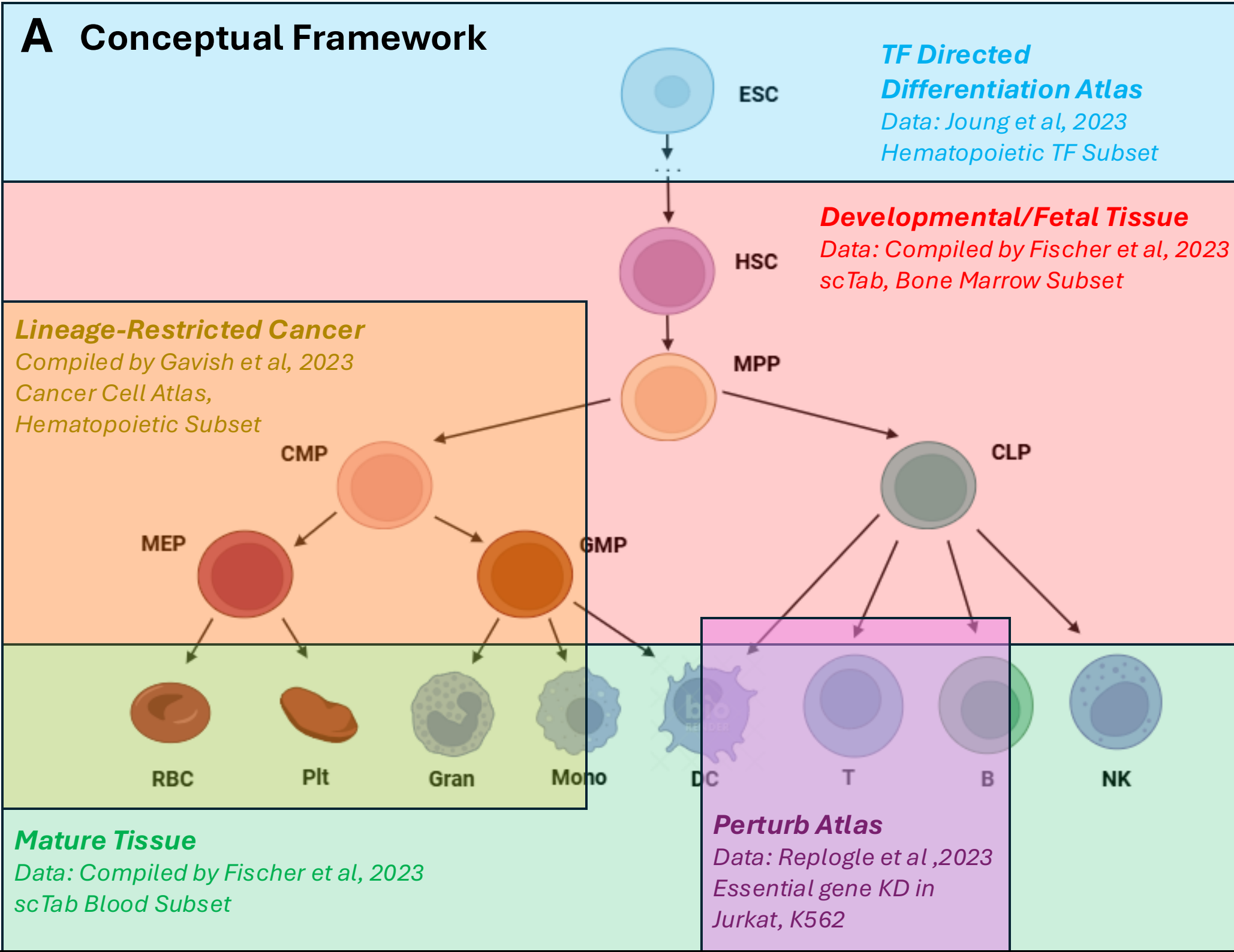


C Evaluation Datasets

- | Non-Disease | Cancer | Out-Of-Distribution |
|---|--|--|
| <ul style="list-style-type: none">Blood
scTab
(non-disease subset)
Fischer et al, 2023Bone Marrow
scTab
(non-disease subset)
Fischer et al, 2023 | <ul style="list-style-type: none">Acute Myeloid Leukemia (AML)
Malignant cells from bone marrow
van Galen et al, 2019Squamous Cell Carcinoma (SCC)
Malignant cells from skin
Ji et al, 2020 | <ul style="list-style-type: none">Neurons
BICCN Atlas
Siletti et al, 2023 |

D Analysis Strategy





C Evaluation Datasets

Non-Disease	Cancer	Out-Of-Distribution
<ul style="list-style-type: none"> Blood scTab (non-disease subset) Fischer et al, 2023 Bone Marrow scTab (non-disease subset) Fischer et al, 2023 	<ul style="list-style-type: none"> Acute Myeloid Leukemia (AML) Malignant cells from bone marrow van Galen et al, 2019 Squamous Cell Carcinoma (SCC) Malignant cells from skin Ji et al, 2020 	<ul style="list-style-type: none"> Neurons BICCN Atlas Siletti et al, 2023

