Supplementary Figure 2
Supplementary Figure 4
**BCL9 Ture gene list**

- Nop56p-associated pre-rRNA complex
- Uptake and function of diphtheria toxin
- Cell Cycle, Mitotic
- P2X7 receptor signalling complex
- Cooperation of Prefoldin and TriC/CCT in actin and tubulin folding
- Tight junction
- Proteoglycans in cancer
- Positive regulation of viral life cycle
- Regulation of protein import
- Hemostasis
- Response to vitamin
- Cellular response to interleukin-4
- Gene and protein expression by JAK-STAT signaling after Interleukin-12 stimulation
- Thermogenesis
- Cell chemotaxis
- Hematopoietic progenitor cell differentiation
- Tuberculosis
- Multi-organism transport
- Regulation of response to wounding
- DNA geometric change
- Positive regulation of transferase activity
- Apelin signaling pathway

**BCL9 False gene list**

- Extracellular matrix organization
- Elastic fibre formation
- NABA ECM REGULATORS
- Blood vessel development
- Collagen metabolic process
- Regulation of IGF transport and uptake by IGFBPs
- Endodermal cell differentiation
- Bone development
- Defective CHST3 causes SEDCJD
- Platelet activation, signaling and aggregation
- Cellular response to growth factor stimulus
- Cellular oxidant detoxification
- Negative regulation of cell migration
- Cell-substrate adhesion
- Response to oxygen levels
- Eye development
- Response to corticosteroid
- Heart development
- Response to peptide
- Response to lipopolysaccharide
- Regulation of wound healing
- Regulation of Wnt signaling pathway
- Osteoblast differentiation

*Supplementary Figure 5*