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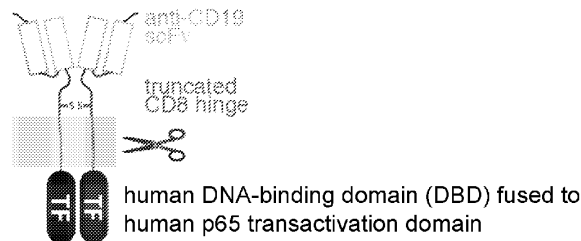
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(54) Title: HUMANIZED NOTCH RECEPTORS WITH HINGE DOMAIN

## Humanized Hinge-Notch Receptor

FIG. 1A



(57) **Abstract:** The present disclosure generally relates to, inter alia, a new class of chimeric Notch receptors containing a fully humanized transcriptional effector, engineered to modulate gene expression and cellular activities in a ligand-dependent manner. The new chimeric Notch receptors surprisingly retain the ability to transduce signals in response to ligand binding despite that the Notch extracellular subunit (NEC), which includes the negative regulatory region (NRR) previously believed to be essential for the functioning of Notch receptors is completely absent. In addition, the new receptors described herein incorporate an extracellular oligomerization domain to promote oligomer formation of the chimeric receptors. Also provided are compositions and methods useful for producing such receptors, nucleic acids encoding same, engineered cells genetically modified with the nucleic acids, as well as methods for modulating an activity of a cell and/or for the treatment of various diseases such as cancers.

[Continued on next page]

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