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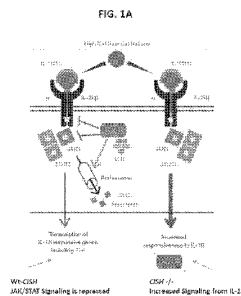
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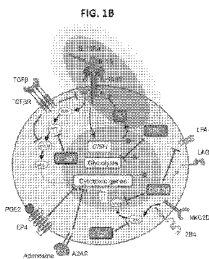
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(54) **Title: ENGINEERED NK CELLS, METHODS OF THEIR PRODUCTION AND USES THEREOF**



Incorporated from Bottino et al., *Transl. Cancer Res* (2016) 5(Suppl 4):S675-S677



Incorporated from Riggan et al., *Clinical & Translational Immunology* (2021) e1238

(57) **Abstract:** A composition and method of *ex vivo* producing genetically modified natural killer (NK) cells is disclosed. The method comprising: (a) downregulating expression of a gene of interest in a population of NK cells so as to obtain a population of NK cells having been genetically modified to down-regulate a gene of interest; (b) expanding the population of NK cells having been genetically modified to down-regulate a gene of interest so as to obtain *ex vivo* expanded population of NK cells; and (c) upregulating expression of at least one membrane bound protein in the *ex vivo* expanded population of NK cells. A method of *ex vivo* producing natural killer (NK) cells expressing at least one membrane bound protein is also disclosed. Pharmaceutical compositions and methods of treatment are also disclosed.

[Continued on next page]

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