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(71) Applicant: **GENERATION BIO CO.** [US/US]; 301 Binney Street, 4th Floor, Cambridge, MA 02142 (US).

(72) Inventors: **KLATTE, Debra**; c/o Generation Bio Co., 301 Binney Street, 4th Floor, Cambridge, MA 02142 (US). **MONDS, Russell**; c/o Generation Bio Co., 301 Binney Street, 4th Floor, Cambridge, MA 02142 (US). **HAMM, Luke, S.**; c/o Generation Bio Co., 301 Binney Street, 4th Floor, Cambridge, MA 02142 (US). **SILVER, Nathaniel**; c/o Generation Bio Co., 301 Binney Street, 4th Floor, Cambridge, MA 02142 (US). **SAMAYOA, Phillip**; c/o Generation Bio Co., 301 Binney Street, 4th Floor, Cambridge, MA 02142 (US). **KERR, Douglas, Anthony**; c/o Generation Bio Co., 301 Binney Street, 4th Floor, Cambridge, MA 02142 (US). **KEENAN, Jessica, Lynn**; c/o Generation Bio Co., 301 Binney Street, 4th Floor, Cambridge, MA 02142 (US).

(74) Agent: **CLARKE, Marcie B.** et al.; McCarter & English, LLP, 265 Franklin Street, Boston, MA 02110 (US).

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(54) Title: NON-VIRAL DNA VECTORS AND USES THEREOF FOR EXPRESSING FVIII THERAPEUTICS

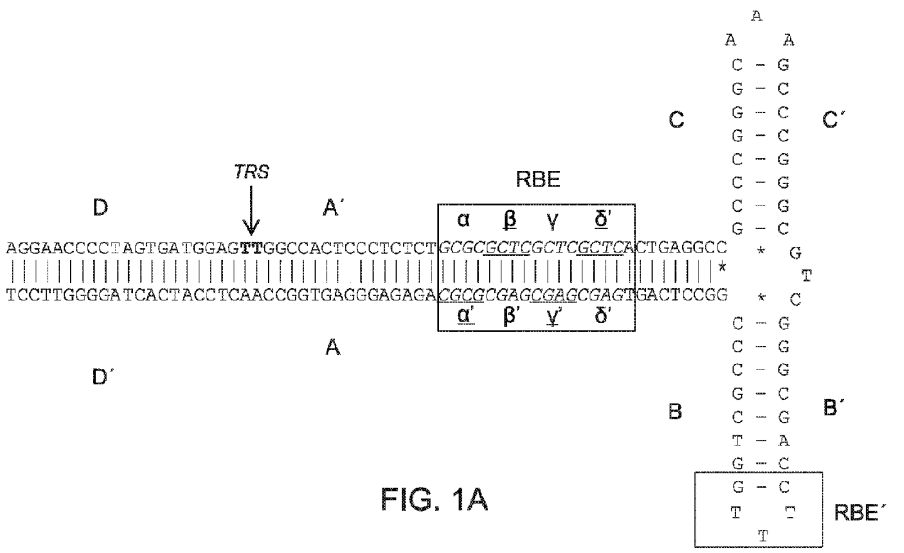

FIG. 1A

(57) Abstract: The application describes ceDNA vectors having linear and continuous structure for delivery and expression of a transgene. ceDNA vectors comprise an expression cassette flanked by two ITR sequences, where the expression cassette encodes a transgene encoding FVIII protein. Some ceDNA vectors further comprise cis-regulatory elements, including regulatory switches. Further provided herein are methods and cell lines for reliable gene expression of FVIII protein *in vitro*, *ex vivo* and *in vivo* using the ceDNA vectors. Provided herein are methods and compositions comprising ceDNA vectors useful for the expression of FVIII protein in a cell, tissue or subject, and methods of treatment of diseases with said ceDNA vectors expressing FVIII protein. Such FVIII protein can be expressed for treating disease, *e.g.*, hemophilia A.

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