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(54) Title: HUMAN ALPHA-GALACTOSIDASE VARIANTS

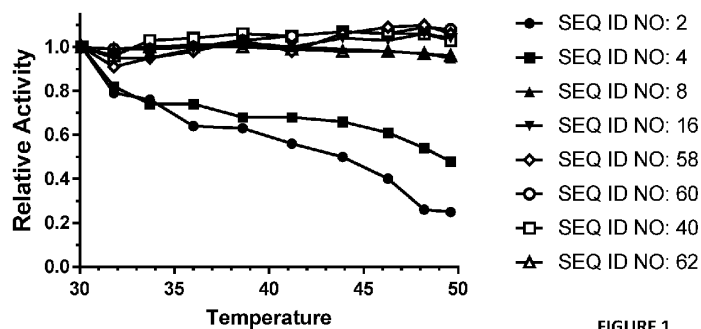


FIGURE 1.

(57) Abstract: The present invention provides engineered human alpha-galactosidase polypeptides and compositions thereof. The engineered human alpha-galactosidase polypeptides have been optimized to provide improved thermostability, serum stability, improved cellular uptake, stability under both acidic (pH <4) and basic (pH >7) conditions, reduced immunogenicity, and improved globotriaosylceramide removal from cells. The invention also relates to the use of the compositions comprising the engineered human alpha-galactosidase polypeptides for therapeutic purposes.

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