

Provided herein are recombinant glycoproteins (e.g., recombinant human α -galactosidase-A proteins) with an altered (e.g., improved) glycosylation profile, and pharmaceutical compositions and kits including one or more of these proteins. Also provided are methods of generating a mammalian cell useful for recombinant expression of a glycoprotein (e.g., recombinant human α -galactosidase-A), methods of producing recombinant glycoproteins, and methods of treatment that include administering to a subject at least one of the recombinant glycoproteins (e.g., recombinant human α -galactosidase-A protein).