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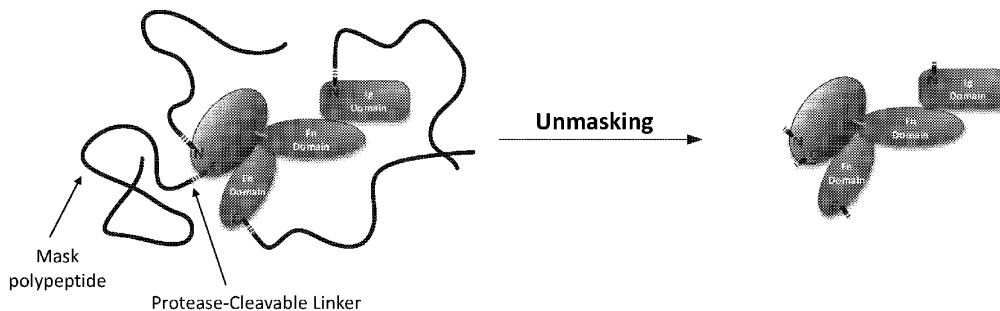


FIG. 1

(57) Abstract: Provided herein are, inter alia, protease-activatable cytokines, as well as uses and methods of treatment. In particular, protease-activatable IL-12 fusion proteins, where the two subunits p40 and p35 are produced as fusion proteins with at least one masking moiety (Mask) linked to the subunit by a release segment (RS), namely, a cleavable linker, especially (i) not cleavable by legumain in human plasma, (ii) cleaved less than 25% compared to EAGRSANHTPAGLTGP (RSR-2295; SEQ ID NO:7048, legumain target) or, (iii) where the release segment comprises EAGRSAXHTPAGLTGP, X is any amino acid other than N (SEQ ID NO:7627). In preferred embodiments, each of the IL-12p35 and IL-12p40 subunits are linked at the N-and C-terminal ends by release segments (cleavable linker) to different masking moieties (Masks). In some embodiments, the fusion proteins further comprise barcodes.

[Continued on next page]

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