Heterodimeric Fc-fused cytokine and pharmaceutical composition comprising the same

ABSTRACT

The present invention relates to a heterodimeric Fc-fused protein comprising a first Fc region and a second Fc region of an immunoglobulin Fc pair and a physiologically active protein composed of two or more different subunits, wherein one or more subunits of the physiologically active protein are linked separately to one or more ends of the N-terminus or C-terminus of the first Fc region and/or the second Fc region, and CH3 domains of the first Fc region and the second Fc region are mutated so as to promote the heterodimeric Fc formation. Moreover, the present invention relates to a pharmaceutical composition comprising the heterodimeric Fc-fused protein. The heterodimeric Fc-fused protein according to the present invention has an advantage in that it can retain the activity of a naturally occurring physiologically active protein whose two or more different subunits exhibit physiological activity by forming a protein complex, because the physiologically active protein can be linked to an immunoglobulin heterodimeric Fc such that the naturally occurring form and structure of the fused protein thereof can be maintained. When the heterodimeric Fc-fused protein according to the present invention is used, there is an advantage in that the *in vivo* half-life of the physiologically active protein contained in the heterodimeric Fc-fused protein can be significantly increased due to the Fc-mediated long half-life such that various physiological activities thereof *in vivo* can be long-lasting.

[Fig. 2]