

Daintain/AIF-1 (Allograft Inflammatory Factor-1) Promotes Erythrocyte Lysis and Heme Release Probably via Binding to Hemoglobin

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Free heme is potentially cytotoxic, particularly in the presence of oxidants or activated phagocytes. Daintain/AIF-1 (allograft inflammatory factor-1) is a macrophage factor that has been implicated in the regulation of inflammation. In the present study, daintain/AIF-1 was found to induce cytolysis of erythrocytes, resulting in heme release *in vitro*. Furthermore, the interacting protein of daintain/AIF-1 was purified by daintain/AIF-1-6 histidine antigen fusion protein nickel affinity chromatography. MALDI-TOF-MS analysis identified hemoglobin subunit α -1 as an interacting protein of daintain/AIF-1. These data suggest that daintain/AIF-1 may be involved in heme-associated diseases.

Key words: Daintain/AIF-1, Heme, Erythrocyte Lysis, Hemoglobin Subunit α -1