Antibody fusions with immunomodulatory proteins for cancer therapy

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Abstract

The potential of immunomodulatory proteins, in particular cytokines, for cancer therapy is well recognized, but hampered by the toxicity associated with their systemic application. In order to address this problem, targeted delivery by antibody fusion proteins has been early proposed and their development intensively pursuit over the last decade. Here, factors influencing the selection and modification of cytokines and antibody formats for this approach are being discussed, indicating current developments and translational advances in the field.

Abbreviations

ADCC: antibody-dependent cellular cytotoxicity; AICD: activation-induced cell death; APC: antigen presenting cell; CDC: complement-dependent cytotoxicity; CEA: carcinoembryonic antigen; ED-B: fibronectin extradomain B; ED-A: fibronectin extradomain A; FAP: fibroblast activation protein; FDA: U.S. food and drug administration; NSCLC: non-small cell lung cancer; TnCA1: tenascin C A1 domain.

Keywords

Immunocytokines, antibody-cytokine fusion proteins, targeted cancer immunotherapy