

Abstract

Mesenchymal stem cells (MSCs) are multipotent cells with the ability to migrate to inflammation sites and to tumor sites. They are able to regenerate the damaged tissues and also easy to isolate and cultivate. Furthermore, they can inhibit tumor cells and modulate the immune response. They are non-toxic in the organism and genetic modification of them can enhance their antitumor effect. MSCs can also serve as a vehicle for delivery of the therapeutic agent to the tumor. These properties make them special for anti-tumor therapy. Under some conditions, MSCs can also stimulate the tumor growth. This work discusses conditions in which MSCs inhibit the growth of cancer cells, as it is not yet clear on which precise mechanisms this inhibition is based.