

FANCONI ANEMIA GENES AND REACTIVE OXYGEN SPECIES IN CANCER**DEVELOPMENT****ABSTRACT**

Fanconi Anemia (FA) ~~is~~ an autosomal recessive disease of childhood. ~~However,~~ The FA pathway is responsible ~~for~~ the development of leukemia and ~~the~~ other cancers. It has been also demonstrated that Fanconi anemia, **an only human** genomic instability syndrome is very sensitive to oxidative stress and reactive oxygen species (ROS) overproduction. In present article ~~work, we consider~~ ~~discuss~~ major mechanisms of antioxidant protection in Fanconi anemia cells. We showed that there are two types of such mechanisms: the suppression of reactive oxygen species overproduction by Fanconi anemia genes through the activation of basic Fanconi anemia proteins under the conditions of oxidative stress and the application of free radical scavengers able to react with iron-dependent reactive oxygen species such as flavonoids rutin and quercetin. The last nontoxic compounds of vitamin P group might be recommended for the treatment of Fanconi anemia patients. Then, we discussed the role of Fanconi anemia proteins in cancer development.