

Disease Markers 2016 vol.2016

Autoantibody Response to ZRF1 and KRR1 SEREX Antigens in Patients with Breast Tumors of Different Histological Types and Grades

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Abstract

© 2016 Lada Dyachenko et al. Purpose. To investigate a frequency of antibody response to SEREX-identified medullary breast carcinoma autoantigens ZRF1 and KRR1 in sera of breast cancer patients taking into account clinical and molecular characteristics of tumors for opening of new perspectives in creation of minimally invasive immunological tests for cancer diagnostics. Methods. Enzyme-linked immunosorbent assay and bioinformatics analysis. Results. Increased frequency of antibody response was found in sera of breast cancer patients to ZRF and KRR1 antigens. The antibody response to these antigens was higher in sera of patients with invasive ductal carcinoma than in sera of patients with other histological types of breast tumors. Moreover, more frequent antibody response to ZRF antigen was found in sera of patients with less aggressive tumors. The sequence analysis of ZRF1 antigen SEREX clones obtained from cDNA libraries of different tumors demonstrates that they encode different protein isoforms. Conclusion. Tumor-associated antigens KRR1 and ZRF1 and their cognate autoantibodies could be considered as potential molecular markers of breast cancer which need to be further investigated.

<http://dx.doi.org/10.1155/2016/5128720>
