

optimum time), the samples were studied by SDS-PAGE, fluorescamine and ELISA methods. the effect of Cu complexes on protein digestibility was proved by SDS-PAGE and fluorescamine methods. Also ELISA method admitted that protein degradation cause allergenicity to be decreased. It seems that Cu complexes are able to operate as artificial proteases and cure related diseases by degradation of target protein .

Keywords: Beta-Lactoglobulin, Allergenicity, Cu Complexes.

domain of VEGF showed high angiogenic potential at low concentrations, nearly similar to that of the intact VEGF. Because of the key role of VEGF in wound healing, some experiments to elucidate the effect of the refolded receptor binding domain on this process, as well as some other angiogenic assays are under way.

Keywords: VEGF Receptor Binding Domain, Refolding, Angiogenesis, HUVEC Proliferation Assay, Wound Healing.

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Expression, Refolding and Angiogenic Activity of Human VEGF Receptor Binding Domain

*Shirin Shahangian¹, Reza H. Sajedi*², Kamran Mansouri³,
Sadegh Hasannia², Shirin Jalili²*

1. Department of Biology, Faculty of Science, University of Guilan, Rasht, IR
2. Department of Biochemistry, Faculty of Biological Sciences, Tarbiat Modares University, Tehran, IR
3. Medical biology research center, Kermanshah University of Medical Sciences, Kermanshah, IR
(E-mail: shirin_shahangian@yahoo.com)

Of the multitude of growth factors that regulate physiological and pathological angiogenesis, vascular endothelial growth factor (VEGF) is believed to be the most important. VEGF is an endothelial cell-specific mitogen and an angiogenic inducer as well as a mediator of vascular permeability. VEGF is essential for developmental angiogenesis and is also required for female reproductive functions, endochondral bone formation, fracture and wound healing, neuroprotection after ischemia or spinal cord injuries. VEGF actions are mediated through binding to two receptor tyrosine kinases, VEGFR-1 and VEGFR-2. VEGF binds to its receptors via its receptor binding domain. There are many inter and intra subunit disulfide bridges in the VEGF receptor binding domain. In this study, the receptor binding domain of VEGF was overexpressed as inclusion bodies in *E. coli* and refolded by multi-step refolding procedure. Considering to the fact that VEGF homodimerization is essential for its receptor binding and biological activity, we followed dimerization of the protein in the refolding process. Based on reducing and non-reducing SDS-PAGE, the refolded protein was present primarily in the dimeric form with little amount of monomer. Circular dichroism and fluorescence spectroscopy studies confirmed the correct refolding of this domain. The angiogenic potency of this variant of VEGF was also investigated using human umbilical vein endothelial cells (HUVEC) proliferation assay. Interestingly, the receptor binding

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Comparison of APX activity of Different Cultivars of the Maize in Cold Stress Condition

Saber Zahri, Huorieh Aliakbari Majd, Mahdi Razavi, Saeid Latifi Navid*

Department of Biology, Faculty of Sciences, University of Mohaghegh Ardabili, Ardabil, IR
(E-mail: haliakbarimajd@yahoo.com)

One of the consequences of environmental stress on plant is an increase in the cellular concentration of reactive oxygen speaice, which are subsequently converted to hydrogen peroxide . ROS damage cell components such as DNA , protein and lipid ,... . plants have two type of antioxidative systems against ROS , nonenzymatic and enzymatic system.APX is an important part of the enzymatic antioxidative system that control the peroxides such as hydrogen peroxide concentration in cell , in reaction APX using ascorbate as a substrate , and catalys transfer of electrons from ascorbate to peroxide , producing dehydroascorbate and water as products. We analyzed the activity of APX in different cultivars of maize to cold stress. These cultivar includes chilling sensitive and chilling tolerance cultivars, APX activity determined with assay containing hydrogen peroxide and one of the reducing substrate , such as ascorbate . for ascorbate the activity was followed as the decreases in A290 due to the consumption of ascorbate in an assay containing 10μ hydrogen peroxide and 0/5μascorbate in buffer. Result indicated APX activity Increase later cold strees ,and APX activity were much higher in the chilling tolerance maize than chilling sensitive maize.

Keywords: Reactive Oxygen Speaice, APX, Dehydroascorbate, Ascorbate, Hydrogen Peroxide.