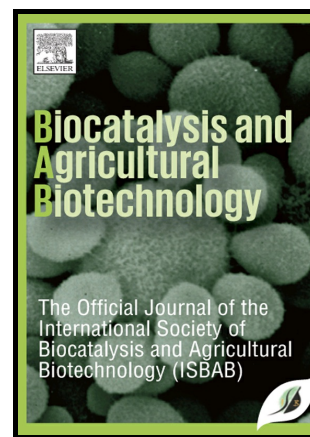


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Mukesh Kumar, Rakesh Kumar, Veena Jain, Sunita Jain



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Differential behavior of the antioxidant system in response to salinity induced oxidative stress in salt-tolerant and salt-sensitive cultivars of *Brassica juncea* L.

Mukesh Kumar^{1,3*}, Rakesh Kumar Dr.², Veena Jain Prof.³, Sunita Jain Dr.³

¹Department of Biotechnology, Ambala College of Engineering and Applied Research, Devsthali-133101, Ambala, Haryana, India

²Department of Microbiology, Chaudhary Charan Singh Haryana Agriculture University, Hisar-125004, Haryana, India

³Department of Chemistry and Biochemistry, Chaudhary Charan Singh Haryana Agriculture University, Hisar-125004, Haryana, India

mukesh.biotech@gmail.com

sehrawatrk@gmail.com

veena.nicejain@gmail.com

sunitajain60@gmail.com

*Corresponding author.: Department of Biotechnology Engineering, Ambala College of Engineering and Applied Research, Ambala-133101, Haryana, India **Tel.:** +919416435339.

ABSTRACT:

In the present study, the ability of salt tolerant (CS-52) and salt sensitive (RH-8113) cultivars of *Brassica juncea* L. was investigated for their differential antioxidant defense mechanism to counter the salinity induced oxidative stress. The seedlings were treated with varying levels of NaCl (0, 50, 100 and 150 mM) and changes in content of malondialdehyde (MDA), hydrogen peroxide (H₂O₂), ascorbic acid, glutathione and proline were examined. Further, salinity induced variations in activity levels of leaf superoxide dismutase (SOD), catalase (CAT), peroxidase (POX), ascorbate peroxidase (APOX), dehydroascorbate reductase (DHAR) and glutathione reductase (GR) in both the cultivars were also investigated. Production of H₂O₂ and MDA was much higher in salt sensitive cultivar RH-8113. Glutathione, ascorbic acid and proline content enhanced in both the cultivars with more pronounced effect on tolerant cultivar CS-52. The salt tolerant cultivar CS-52 exhibited significant increase in the activities of SOD, DHAR and GR in

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