Molecular cloning and characterization of mitogen activated protein kinase (MAPK) genes in turmeric (Curcuma longa L.) expressed in response to diverse environmental stresses

SATYABRATA NANDA

CENTRE OF BIOTECHNOLOGY
SIKSHA ‘O’ ANUSANDHAN UNIVERSITY
2016
Molecular cloning and characterization of mitogen activated protein kinase (MAPK) genes in turmeric (Curcuma longa L.) expressed in response to diverse environmental stresses

THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

IN

BIOTECHNOLOGY

By

SATYABRATA NANDA

REGD. NO: 1271737002

SUPERVISOR

DR. RAJ KUMAR JOSHI

CENTRE OF BIOTECHNOLOGY
SIKSHA ‘O’ ANUSANDHAN UNIVERSITY
BHUBANESWAR