



Department of Biotechnology
Ministry of Science and Technology
Block-2, CGO Complex, Lodhi Road, New Delhi 110 003

Call for Pre-Proposal on Application of Association Mapping for Crop Improvement

Under Accelerated Product Development Programme

Association mapping (AM) is a powerful approach (as an alternative to QTL interval mapping) for detecting marker-trait associations (MTA) leading to detection and fine mapping of genes/QTL for individual traits in any living system. It utilizes relatively unrelated individuals (ideally a core collection from a germplasm) to identify associated markers, as against linkage analysis (QTL interval mapping), which typically requires mapping populations that are difficult to develop (their development is also time consuming and expensive). Association mapping allows a much higher resolution and makes use of wider range of genetic variation, permitting survey of large number of alleles per locus (as opposed to only two alleles sampled in a biparental mapping population).

Association analysis has already been conducted in all major crops including maize, rice, wheat, barley, potato, *Arabidopsis*, sorghum, soybean, etc. for a variety of important traits. However, there is hardly any report of association mapping for any major crop from India. The Department of Biotechnology, Government of India, plans to support research projects on Association Mapping in crop plants, and invites pre-proposals from universities, public and private research institutes and non-profit organizations. Concept proposals, giving a brief outline of the project will be considered. Those having relevant expertise as evident from the publications in high-impact factor journals or product development may apply. Young Scientists who have strong desire to start work in this area are also encouraged. The pre-proposal should identify the current problems and the proposed molecular breeding strategies for dealing the problem in 3–5 years period may be submitted.

Fifteen (15) copies of the duly signed pre-proposal (forwarded by the competent authority) may be submitted by **20 January 2012** to **Dr R. R. Sinha**, Advisor, Department of Biotechnology, Block 2, 6th Floor, CGO Complex, Lodhi Road, New Delhi 110 003. The pre-proposal of up to 5 pages should include (1) title of the concept, (2) preliminary proof of concept, (3) major objectives/milestones, (4) expected deliverables/outcomes, (5) proof of expertise in the form of publications in high impact factor journals, (6) the minimum budget required, (7) projects in hand and (8) association with industry (if any). The Department of Biotechnology encourages joint proposals from competent persons from multiple institutions with clear complementation of activities.

Pre-proposals with scientific merit will be short-listed by a screening committee for development of detailed research proposals.