Embryo development can be divided conveniently into three confluent stages. Initially, during histodifferentiation, the single-celled zygote undergoes extensive mitotic division, and the resultant cells differentiate to form the basic body plan of the embryo. Thereafter, maturation occurs largely in the absence of further cell divisions, and is characterized by cell expansion and deposition of reserves (normally proteins, with lipid or carbohydrate) in the storage tissues. Maturation is terminated by drying, which results in a gradual reduction in metabolism as water is lost from the seed tissues and the embryo passes into a metabolically inactive, or quiescent, state. It is now evident that these events occur under the controlling influence and protection of the maternal environment. Interactions occur between the embryo and the surrounding seed tissues (i.e., the seed environment), which are in intimate contact with the maternal sporophyte (i.e. the maternal environment). These modulate and control the course of embryogeny. The extent to which interactions between the embryo and its immediate environment regulate development remains to be elucidated as are the signals that form the basis of these interactions. Knowledge is particularly lacking about the early stages of embryogenesis, when the initial differentiation/morphogenesis of the embryo is triggered. Somatic embryogenesis, the elaboration of a basic embryo plan from certain vegetative tissues, occurs in artificially created environments which are different from that present within the seed (Raghavan, 1986). However, such adventive embryos commonly fail to complete their developmental program and germinate without developing full-size, storage-laden cotyledons. Even zygotic embryos removed from the developing seed do not complete

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