

EGF and its receptor (EGF-R) in in vitro implanted mouse blastocysts

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In vitro mouse blastocysts produce a serum dependent outgrowth of trophoblast considered similar to in utero implantation. We observed in this system that EGF induces morphological and biochemical modifications on implanted blastocysts : with EGF the nuclei of giant cells exhibited a prominent morphology and the amount of DNA and progesterone secretion was diminished We detected EGF-R by radioligand and crosslinking analysis, and by its induced tyrosine autophosphorylation The tyrosine kinase of the receptor seems to be affected by trophoblast differentiation, since it diminishes when the implantation process is inhibited Taken together, these results indicate that during this stage of development the trophoblast is responsive to EGF and that during its differentiation a modulation of the EGF-R would occur, suggesting yet unknown functional relationships between this growth factor and the implantation process.