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RESEARCH ABSTRACT FORM

TITLE: *TGF-B signaling effects on Smad4 and Smad2/3 in Mouse Embryonic Stem Cells and Mouse 3T3 Fibroblast cells*

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Immunofluorescence staining techniques were used with confocal microscopy to determine the localization of Smad4 and Smad2/3 in the presence of TGF superfamily signaling proteins (TGF-B) in mouse embryonic stem cells and mouse (NIH 3T3) fibroblasts. TGF-B is important for cell pattern formation, proliferation, extracellular matrix production, cell death, and differentiation. ImmunoFluorescent Staining of Preimplantation Stage Embryos in 4% PFA Fix/PBST (Rossant's Protocol), Immunostaining of adherent cells permeabilized with 100% ice-cold MeOH protocol, fluorescent, and confocal microscopy were used to image the cells and collect data. Localization of Smad4 was evident throughout the cytoplasm in treated and untreated samples, while Smad2/3 was found in the nucleus as well as the cytoplasm. Smad2/3 was also noted to have sub-nuclear localization in some treatments.