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[N3-HNP-1](#)

**Responses of Chicken Sertoli Cells and Fibroblasts after Transfection with Plasmids pEGFP-N3-HNP-1**

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**Abstract**

**Chicken Sertoli cells (SCs) and fibroblast cells (FCs) were transfected with two different plasmid vectors to study their comparative responses to transfection and to heterogenous protein appeared in vitro cultures of both cell lines. Sertoli cells and FCs (control) were transfected with plasmids pEGFP-N3-HNP-1 and pEGFP-N3 and efficacy was recorded. Subcellular localization of both proteins was observed. IL-1 $\beta$ , IL-1RN, Fas, FasLG (FasL) and Caspase-3 expressions were examined using Real-Time PCR. The fibroblast cells were more efficient in transfection activity than SCs.**

**Moreover, plasmid pEGFP-N3 had higher capability of transfection compared to pEGFP-N3-HNP-1 plasmid. The cells confined the poisoning protein in large particles and non-poisonous protein appeared all over cell in thin particles. The inflammatory response of SCs to non-poisonous heterogenous protein was lower than to poisonous heterogenous proteins compared to FCs. The FasL response of SCs to poisonous protein was faster than to non-poisonous proteins. It is concluded that Sertoli cells may create strong resistance against transfection than fibroblast cell, while the former contain large amounts of harmful/poisonous proteins that may modulate a quick inflammatory response. The quick inflammatory**

**response may lead to apoptosis in Sertoli cells which is thought to be a way to get rid of unhealthy cells.**

**Key words: Cytokines, Heterogenous, protein HNP-1, Sertoli cells ,Transfection**