

Expression of Hsp27 and Phosphorylated Hsp27 in 8 Weeks Old Human Embryo

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Heat shock proteins (Hsp) interact with many different molecules and play an important role in various cellular functions such as stress tolerance, protein folding, protein degradation, cytoskeletal integrity, signal transduction, cell cycle. The aim of our work is to register the expression of small heat shock protein (sHsp) member's – Hsp27 and phosphorylated Hsp27 (pHsp27), in different tissues and organs of 8-week old human embryo. Immunohistochemical evaluation of human embryo sample was performed using antibodies against Hsp27 and pHsp27, and polymer-based detection system. Results were read using light microscopy. The Hsp27 had cytoplasmic expression in the encephalon, medulla spinalis, skeletal muscles, heart, liver, intestinal epithelium and muscles. The phosphorylated Hsp27 was expressed in bones and muscles. Our results suggest that both forms of Hsp27 play an important specific role in the proliferation and differentiation of different tissue's cells during human embryo development.

Key words: human embryo, Hsp27, pHsp27, small heat shock proteins, immunohistochemistry