

6<sup>th</sup> World Congress on

# Cell & Stem Cell Research

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## Large Scale Production of Serum- and Xeno-Free Cytokines from Human Cells to Enable Clinical Manufacturing of Stem Cell Products

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Cytokines play essential roles in expansion and differentiation of human stem cells, which are often the single largest component of the cost for clinical manufacturing. Current advancement in human cell therapy requires large scale and high quality of cytokines/growth factors in serum-free (SF) and Xeno-Free (XF) format to avoid potential risk of immunogenicity associated with non-human origin supplements. HumanZyme (HZ) today offers over 50 high quality cytokines and growth factors (HumanKine™) for stem cell research. HZ human cell line based expression platform (HumaExpress®) provides highly authentic SF/XF cytokines that conventional non-human cell expression systems either cannot produce at all or cannot produce economically. HZ manufacturing facility is exclusively dedicated to XF production of human cytokines. The company has implemented a quality system that meets the requirements of major stem cell companies. HumanZyme plans to bolster its leadership position in enabling clinical production of human cell therapy by scaling up major cytokines essential for human stem cell production including Activin A, TGF- $\beta$ -1, BMP-4 and FGFbasic (We offer thermostable FGF basic for the convenience of every other day feeding). HZ all products are easily scalable and can be easily converted to cGMP compliant manufacturing. We are gearing up to make commercially available cGMP grade products in near future. More details are available at [humanzyme.com](http://humanzyme.com).

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