



# cell sciences®

## ultra pure cytokines

Produced in barley, these proteins are animal, bacterial, and viral free, and are ultra pure, with extremely low endotoxin.



www.cellsciences.com

*Cell Sciences offers innovative, unique growth factors and hard-to-produce recombinant proteins, bypassing the use of bacterial or animal cell systems. These ultra pure proteins contain no contamination from other growth factors and negligible amounts of endotoxin.*

### Background: barley endosperm

The host organism, barley, with its specialized endosperm storage tissue, provides many unique features including proficient protein machinery, with eukaryotic folding, and a distinct route for long-term protein protection and storage. A biochemically inert environment, void of endotoxins, low protease activity and secondary metabolite content, and a simple protein profile, aid in downstream processing. Barley has also a G.R.A.S. (generally recognized as safe) status from the FDA.

**Cell Sciences ultra pure growth factors and cytokines** are produced for use in basic and applied medical scientific research, cell culture media and diagnostics.

- ◆ serum free
- ◆ animal, bacterial & viral free
- ◆ extremely low endotoxin (<0.005 ng/ug)
- ◆ highly biologically active
- ◆ easier regulatory clearance
- ◆ perfect for cell culture, drug development, stem cell research, animal research
- ◆ for use in all *in vitro* cellular studies
- ◆ for use in all *in vivo* animal studies

### Ultra pure cytokines & growth factors

- FGF1, human
- FGF2, human
- FLT3 ligand, human
- GCSF, human
- IFNA2, human
- IFN gamma, human
- IGF1, human
- IL1-alpha, human
- IL2, human
- IL3, human
- IL4, human
- IL5, human
- IL6, human
- IL7, human
- IL9, human
- IL16, human
- IL22, human
- KGF, human
- M-CSF, human
- NRG1/HRG beta 2, human
- SCF, mouse
- SF20/IL25, human
- TNF-alpha, human
- TNF-beta, human
- VEGF121, human
- VEGF165, human