SYMANSIS
CELL SIGNALING SCIENCE

Product Data Sheet

human cell expressed FGF R4-Fc^{HCX} Chimera

Source	A DNA sequence encoding the signal peptide and extracellular domain of human FGF R4 (aa 1-201) was fused to the Fc region of human IgG1 (aa 93-330). The chimeric protein was expressed in modified human 293 cells.
Molecular Mass	Symansis FGF R4-Fc^{HCX} Chimera migrates as a broad band between 55 and 65 kDa in SDS-PAGE due to post-translation modifications, in particular glycosylation. This compares with the unmodified FGF R4-Fc Chimera which has a predicted molecular mass of 47.1 kDa.
pI	Symansis FGF R4-Fc^{HCX} Chimera separates into a number of isoforms with a pI between 5.9 and 7.6 in 2D PAGE due to post-translational modifications, in particular glycosylation. This compares with the unmodified FGF R4-Fc Chimera which has a predicted pI of 8.19.
% Carbohydrate	Symansis purified FGF R4-Fc^{HCX} Chimera consists of 15-30% carbohydrate by weight.
Glycosylation	Symansis FGF R4-Fc^{HCX} Chimera has N-linked and probably O-linked oligosaccharides.
Purity	>95%, as determined by SDS-PAGE and visualized by silver stain.
Formulation	When reconstituted in 0.5 ml sterile phosphate-buffered saline, the solution will contain 1% human serum albumin (HSA) and 10% trehalose.
Reconstitution	It is recommended that 0.5 ml of sterile phosphate-buffered saline be added to the vial.
Storage	Lyophilized products should be stored at 2 to 8°C. Following reconstitution short-term storage at 4°C is recommended and longer-term storage of aliquots at -18 to -20°C. Repeated freeze thawing is not recommended.
Background Information	Fibroblast growth factors (FGFs) belong to a large family (22 human members) of mitogenic factors ranging in molecular mass from 17-34 kDa. FGFs exhibit high affinity for heparin and heparin-like glycosaminoglycans (HLGAGs), and these interactions are required for signaling activation from the FGF receptors. FGFs are mitogens for fibroblasts and many other cell types and have additional cellular functions including effects on differentiation, survival and motility. FGFs have major roles in hematopoiesis, development, wound repair, angiogenesis and tumor growth. During embryonic development, FGFs are involved in the formation of epithelial tissues, organs and limbs. In adult organisms FGFs play a role in tissue repair and response to injury. The biological actions of FGFs are mediated through binding to the cognate FGF receptors, which are members of the tyrosine kinase receptor family. Expression of FGF R4 is widespread and has been detected in the lung, kidney, adrenal, liver, pancreas, intestine, striated muscle and spleen tissues and particularly in fetal tissues. Multiple receptor splice variants produce a number of isoforms for each of the receptors. The FGF receptors are type I transmembrane cell surface proteins that comprise an extracellular domain (ECD) composed of three immunoglobulin-like (Ig) loops, a transmembrane segment and an intracellular tyrosine kinase domain. Human fibroblast growth factor receptor 4 (FGF R4) is synthesized as an 802 amino acid glycoprotein that includes a 21 amino acid signal sequence, a 348 amino acid ECD and a 412 amino acid cytoplasmic domain. The FGF R4 includes 2 potential N-linked glycosylation sites. For a recent review of signaling by FGF receptors please refer to Eswarakumar VP, Lax I, Schlessinger J. (2005) *Cytokine Growth Factor Rev*. **16**(2): 139-49 and Ezzat S and Asa SL (2005) *Horm Metab Res*. **37**(6):355-60.

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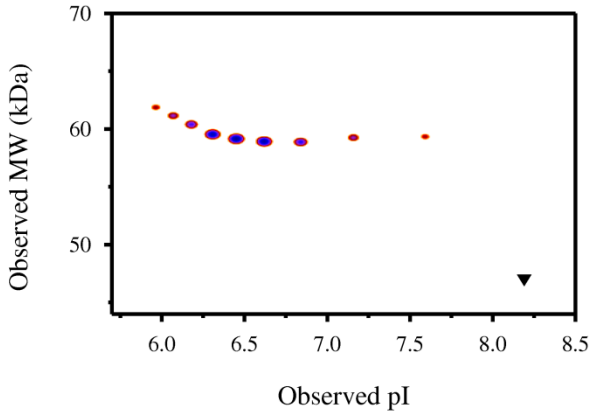
Densitometry

Post-translational modifications result in protein heterogeneity. The densitometry scan demonstrates the purified human cell expressed protein exists in multiple isoforms, which differ according to their level of post-translational modification. Expression of these isoforms is highly significant for cell biology, as they more closely resemble the native human proteins. Triangle indicates theoretical pI and MW of the protein. The original 2D gel from which the densitometry scan was derived is available upon request.



Theoretical Sequence

LEASEEVELEPCLAPSLEQQEQELTVALGQPVRLCCGRAERGGHWYKEGSRLAPAGRV
RGWRGRLEIASFLPEDAGRYLCLARGSMIVLQNLTLITGDSLTSSNDDEDPKSHRDLSNR
HSYPQQAPYWTHPQRMEKKLHAVPAGNTVKFRCPAAGNPTPTIRWLKDGQAFHGENRI
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DVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCR
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SLSPGK