

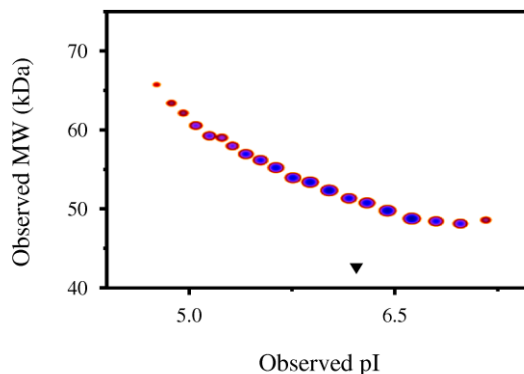
human cell expressed TGF-beta RII-Fc Chimera

Source	A DNA sequence encoding the signal peptide and extracellular domain of human TGF-beta receptor type II (aa 1-166) 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 TGF-beta RII-Fc Chimera migrates as a broad band between 45 and 70 kDa in SDS-PAGE due to post-translation modifications, in particular glycosylation. This compares with the unmodified TGF-beta RII-Fc Chimera that has a predicted molecular mass of 42.7kDa.
pI	Symansis TGF-beta RII-Fc Chimera separates into a number of isoforms with a pI between 4.7 and 7.2 in 2D PAGE due to post-translational modifications, in particular glycosylation, the. This compares with the unmodified TGF-beta RII-Fc Chimera that has a predicted pI of 6.22.
% Carbohydrate	Symansis purified TGF-beta RII-Fc Chimera consists of 5-40% carbohydrate by weight.
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	<p>Transforming growth factor-beta (TGF-beta; TGF-b) is a pleiotropic cytokine that controls the growth, survival, motility and differentiation of cells. It is involved in the degradation and remodelling of the extracellular matrix (ECM), and has an important role in development during embryogenesis. TGF-beta is critical in wound healing as well as hematopoiesis, maintaining immune homeostasis by balancing lymphocyte proliferation and apoptosis. The biological effects of TGF-beta are mediated by binding to TGF-beta receptors; TGF-beta RI, TGF-beta RII (TGF-beta R2) , and TGF-beta RIII (TGF-beta R3).</p> <p>TGF-beta initially binds to TGF-beta RII, which in turn complexes with TGF-beta RI. TGF-beta RII autophosphorylates and in turn phosphorylates serine residues on SMAD signaling proteins, activating the downstream intracellular signaling cascade through the cytoplasm and into the nucleus.</p> <p>TGF-beta RII is synthesized as a 567 amino acid protein including a 22 amino acid signal sequence, a 144 amino acid extracellular domain, a 21 amino acid transmembrane domain and a 380 amino acid cytoplasmic domain containing a Ser/Thr protein kinase. TGF-beta RII contains 3 N-linked glycosylation sites.</p> <p>For a recent review on TGF-beta signaling please refer to Feng XH & Derynck R (2005) <i>Ann. Rev Cell Dev Biol.</i> 21: 659-93.</p>

human cell expressed TGF-beta RII-Fc Chimera

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.



The 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

```
TIPPHVQKSVNNDMIVTDNNGAVKFPQLCKFCDVRFSTCDNQKSCMSNCSITSICEKPQE
VCVAVWRKNDENITLETVCHDPKLPYHDFILEDAAASPKCIMKEKKKPGETFFMCSCSSDE
CNDNIIFSEEYNTSNPDRIPKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDT
LMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVL
HQDWLNGKEYKCRVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLV
KGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSV
MHEALHNHYTQKSLSLSPGK
```