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Human IGF-II Analogs from GroPep
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GroPep produces IGF-II in both a high-purity Receptor Grade and a cost-effective Animal/Media Grade. GroPep scientists have engineered a number of IGF-II analogs with altered affinity for the Type 1 IGF receptor or the IGF Binding Proteins (IGFBPs).

Des(1-6)IGF-II:

- ◆ Similar anabolic potency to IGF-II *in vitro*.
- ◆ Similar affinity for the Type 2 IGF receptor relative to IGF-II.^a
- ◆ Reduced binding to IGFBPs relative to IGF-II.

[Arg⁶]IGF-II:

- ◆ Similar anabolic potency to IGF-II *in vitro*.
- ◆ Greater affinity for the Type 2 IGF receptor relative to IGF-II.
- ◆ Reduced binding to IGFBPs relative to IGF-II.

[Leu²⁷]IGF-II:

- ◆ Lower affinity for the Type 1 IGF receptor relative to IGF-II.
- ◆ Similar affinity for the Type 2 IGF receptor relative to IGF-II.
- ◆ Reduced binding to human IGFBP-3 relative to IGF-II.

Properties at a Glance:

Affinity for Type 1 IGF receptor:

IGF-II > [Arg⁶]IGF-II ≅ Des(1-6)IGF-II >>> [Leu²⁷]IGF-II

Affinity for Type 2 IGF receptor^a:

[Arg⁶]IGF-II > IGF-II > Des(1-6)IGF-II ≅ [Leu²⁷]IGF-II

Affinity for IGFBPs:

IGF-II > [Leu²⁷]IGF-II >> [Arg⁶]IGF-II > Des(1-6)IGF-II

For specifications, vial sizes and retail pricing on any of these reagents, click on the product in the left hand column below.

IGF-II Analog (Receptor Grade)	IGF Receptor Binding Assay			Binding to IGFBPs**		Stimulation of Protein Synthesis	Molecular Weight (Da)
	ED ₅₀ (ng/ml)			ED ₅₀ (ng/ml)		ED ₅₀ (ng/ml)	
	Type 1*		Type 2**	C	D	A	
	A	B	A				
IGF-II	16	4.5	55	5	0.45	54	7469
Des(1-6)IGF-II	28	ND	115 ^a	>1000	ND	45	6765
[Arg ⁶]IGF-II	28	ND	19	625	ND	36	7496
[Leu ²⁷]IGF-II	60	185	120	ND	1.5	ND	7420

Assay conditions/system: A Rat L6 myoblast monolayers. ND: Not determined
 B Human placental membranes.
 C Rat L6 myoblasts conditioned medium (predominantly IGFBP-4 & -5).
 D Recombinant human IGFBP-3.

^a In cell suspensions, the affinity of Des(1-6)IGF-II is slightly greater than IGF-II.

* Performed using IGF-I as tracer.

** Performed using IGF-II as tracer.

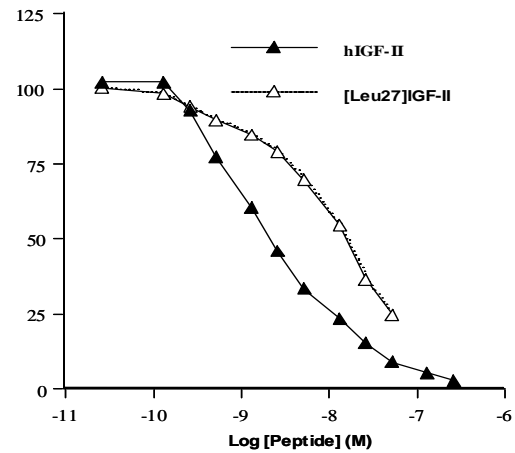
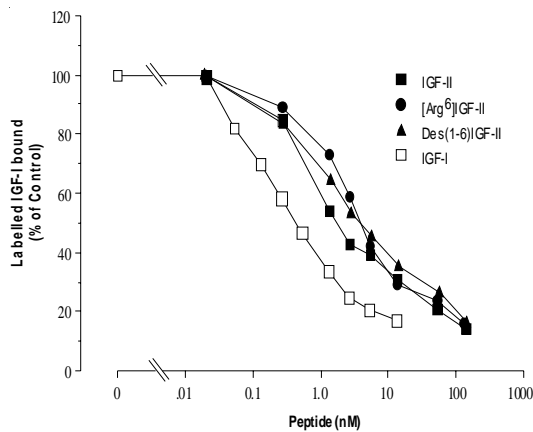
Data in this table were compiled for comparative purposes from GroPep experimental data and the literature.

References:

Forbes, B. E. *et al.* (2002) *Eur. J. Biochem.* **269**, 961-968.
 Francis, G. L. *et al.* (1993) *Biochem. J.* **293**, 713-719.
 Roth, B. V. *et al.* (1991) *Biochem. Biophys. Res. Commun.* **181**, 907-914.

GroPep Human IGF-II Analogs - Graphs of Biological Activity

Type 1 IGF Radioreceptor assay in Rat L6 myoblasts

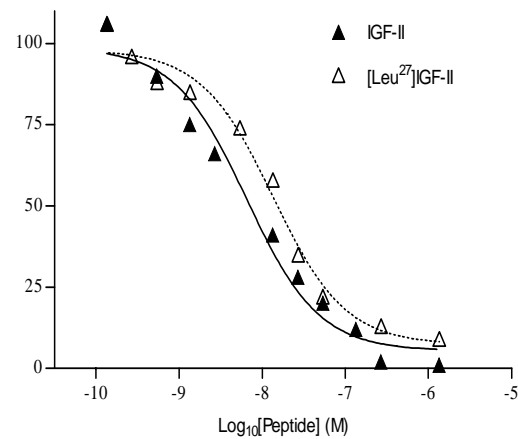
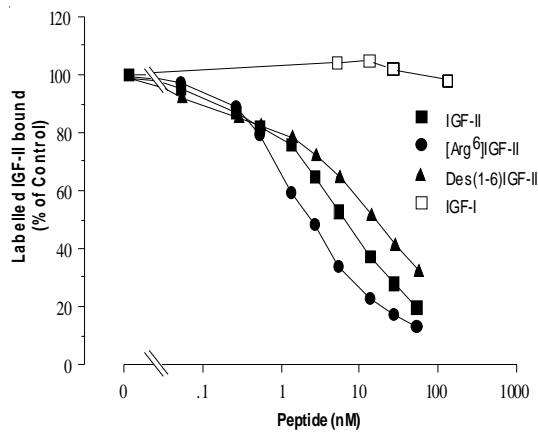


[Arg⁶]IGF-II, Des(1-6)IGF-II and [Leu²⁷]IGF-II have reduced affinity for the Type 1 IGF Receptor compared with IGF-II in an IGF radioreceptor assay.

GroPep human IGF-I exhibit greater affinity for the Type 1 IGF Receptor than IGF-II.

Assay method from Ballard FJ *et al.* (1986) *Biochem.J.* **233**, 223

Type 2 IGF Radioreceptor assay in Rat L6 myoblasts



[Arg⁶]IGF-II exhibits a greater affinity than IGF-II, Des(1-6)IGF-I or [Leu²⁷]IGF-II for the Type 2 IGF Receptor. GroPep human IGF-I does not bind significantly to the Type 2 Receptor.

Assay method from Ballard FJ *et al.* (1986) *Biochem. J.* **233**, 223

Des(1-6)IGF-II has reduced affinity for the Type 2 IGF Receptor compared with IGF-II.

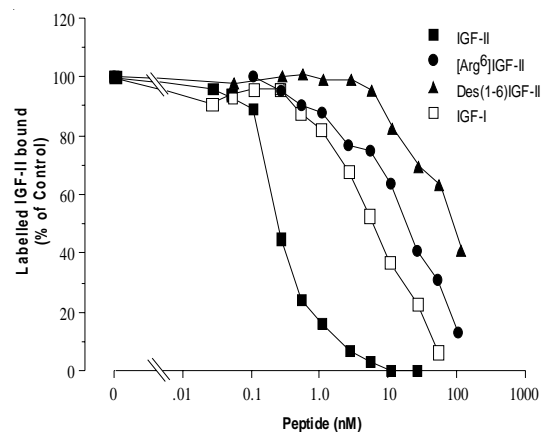
[Leu²⁷]IGF-II has similar affinity for the Type 2 IGF Receptor as does IGF-II.

Binding to Porcine IGFBP-3

Both Des(1-6)IGF-II and [Arg⁶]IGF-II exhibit markedly reduced binding to porcine IGF binding protein-3 compared with both IGF-II and IGF-I.

The purification of porcine IGFBP-3 and measurement of IGF binding were performed as previously described.

Walton PE *et al.* (1989) *Comp. Biochem. Physiol.* **92B**, 561



Human IGF-II and IGF-II Analogs from GroPep

Human IGF-II

Receptor Grade:

Code: FU020	20 µg	US\$150	Code: FM001	1 mg	US\$1815
Code: FU100	100 µg	US\$240	Code: FM005	5 mg	US\$5445

Animal/Media Grade:

Code: OU100	100 µg	US\$150	Code: OM010	10 mg	US\$2420
Code: OM001	1 mg	US\$485	Code: OM050	50 mg	US\$7260
Code: OM005	5 mg	US\$1450			

Larger quantities available on request

[Arg⁶]IGF-II (Receptor Grade)

Code: GU020 20 µg US\$290

Des(1-6)IGF-II (Receptor Grade)

Code: MU020 20 µg US\$290 Code: MM001 1 mg US\$3630
Code: MU100 100 µg US\$485

[Leu²⁷]IGF-II (Receptor Grade)

Code: TU020 20 µg US\$290 Code: TM001 1 mg US\$3630
Code: TU100 100 µg US\$485

Other IGF-II-related products:

Peptides:

Human proIGF-II (aa 1 - 104) (Receptor Grade)

Code: AZU100 100 µg US\$570 Code: AZM001 1 mg US\$4290

Human proIGF-II (aa 1 - 156)

Code: AHU020 20 µg US\$340 Code: AHU100 100 µg US\$570

Mono-biotinyl human IGF-II

Code: AMU010 10 µg US\$180 Code: AMU050 50 µg US\$305

Di-biotinyl human IGF-II

Code: ANU050 50 µg US\$305

Chicken IGF-II (Receptor Grade)

Code: SU020 20 µg US\$340 Code: SM001 1 mg US\$4290
Code: SU100 100 µg US\$570

Rat IGF-II (Receptor Grade)

Code: AAU020 20 µg US\$340 Code: AAU100 100 µg US\$570

Tuna IGF-II (*Thunnus maccoyii*)

Code: AUU020 20 µg US\$290 Code: AUU100 100 µg US\$485

Antibodies:

IGF-II, Anti-human (Rabbit Antiserum)

Code: PAC1 20 µl US\$110 (sufficient for ~500 RIA tubes)
Code: 5PAC1 100 µl US\$220 (sufficient for ~2500 RIA tubes)

100 % Cross-reactivity against human, chicken, porcine and rat IGF-II. 85 % cross-reactivity against bovine IGF-II.

IGF-II, Antibody for Immunohistochemistry (Affinity purified Rabbit Antiserum)

Code: PAAL1 50 µg US\$250

Recognises IGF-II in rat tissues.

IGF-IIe, (aa 78 - 88), Anti-human (Rabbit Antiserum)

Code: PAAZ1 100 µl US\$220

IGF-IIe, (aa 89 - 101), Anti-human (Rabbit Antiserum)

Code: PAAY1 100 µl US\$220

IGF-IIe, (aa 138 - 156), Anti-human (Rabbit Antiserum)

Code: PAAX1 100 µl US\$220

IGF-II Peptide and Antibody Packs also available



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