



# TECHNICAL BULLETIN #1

## IGF Binding Proteins and Related Reagents

IGF Binding Proteins (IGFBPs) are a family of proteins which bind Insulin-like growth factors-I and -II with high affinity. The IGFBPs modulate the metabolic and mitogenic effects of IGF-I and IGF-II by controlling the distribution, function and activity of the IGFs in various tissues and body fluids. IGFBPs also have direct, IGF-independent activities, which control cell migration and proliferation.

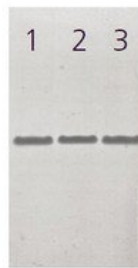
For specifications, vial sizes and retail pricing on any of these reagents, email us at [info@gropep.com](mailto:info@gropep.com)

GroPep Bioreagents is at the forefront of developments in the IGF field by offering a comprehensive range of IGFBPs, antibodies and related reagents to R&D laboratories.

Technical bulletin #1 details the IGFBP-related reagents currently available from GroPep and some of their properties.

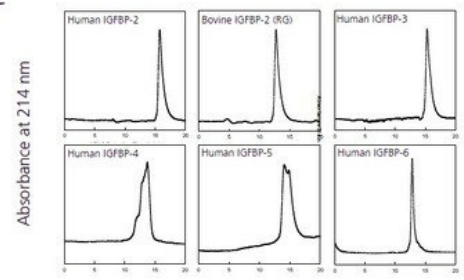
### IGFBPs of high purity:

SDS-PAGE



Bovine IGFBP-2 (Media Grade (MG)) (Lane 1)  
 GARA-bovine IGFBP-2 (Lane 2)  
 Bovine IGFBP-2 (Receptor Grade (RG)) (Lane 3)  
 10 - 20 % Tris-Tricine non-reducing SDS-PAGE  
 Detection by Coomassie Blue.

HPLC

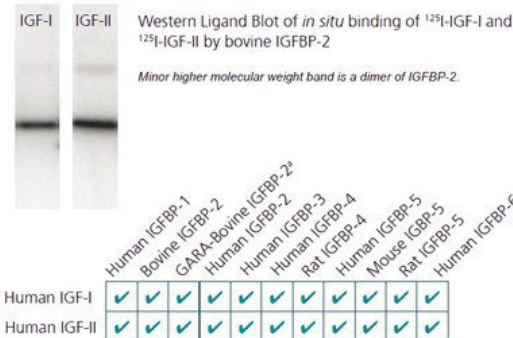


RP-HPLC Retention time (minutes)

Gradient of 20 - 50% acetonitrile in 0.1% TFA over 30 minutes.  
 Column: Perkin Elmer BU 300 7 micron, 100 x 2.1mm, Part No.: 1 0711-0064.  
 Additional peaks for IGFBP-4 and IGFBP-5 are due to different degrees of glycosylation

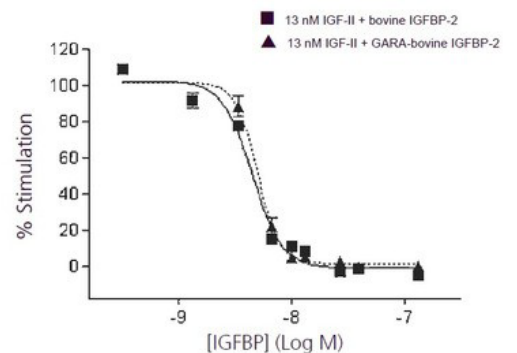
### Biological activity of IGFBPs:

Western Ligand Blotting



Binding of biotinyl- or <sup>125</sup>I-labelled IGF-I and IGF-II by IGFBPs  
 \* GARA-IGFBP-2 is an isoform of bovine IGFBP-2 with a 4 aa N-terminal extension resulting from partial processing of the leader peptide.  
 \* GARA-IGFBP-2 has similar affinity to IGF-II and approximately 4 fold higher affinity for IGF-I compared to IGF-II by BiAcCore Analysis.

Inhibition of IGF-II-induced Protein Synthesis

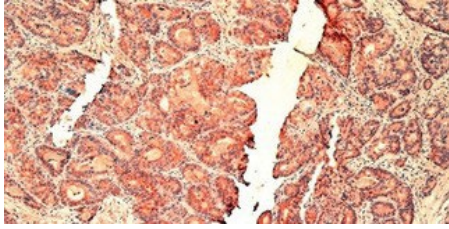


Inhibition of human IGF-II-induced protein synthesis in rat L6 myoblasts by bovine IGFBP-2  
 Method based on Francis, G. L., et al, Biochem. J., 233, 207 - 213, 1986.

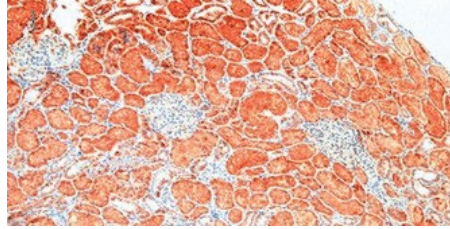
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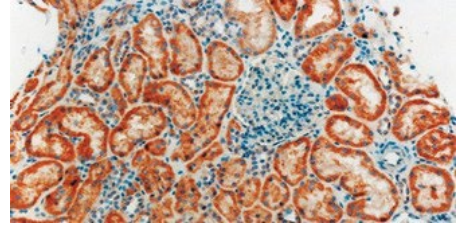
### *Horseradish peroxidase staining of IGFBPs in fixed tissue:*



IGFBP-1 in human liver metastasis of gastric carcinoma, intestinal type



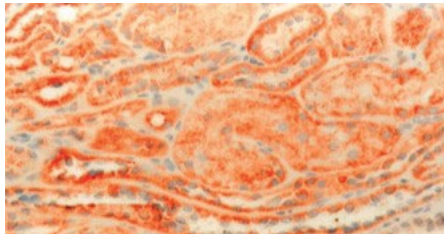
IGFBP-2 in human kidney



IGFBP-3 in human kidney tubules



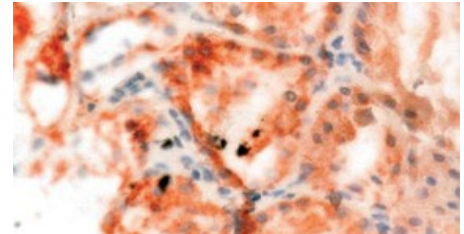
## Human Tissue



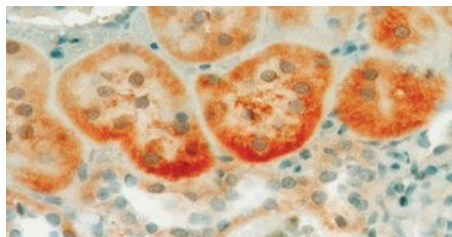
IGFBP-4 in human kidney



IGFBP-5 in human kidney



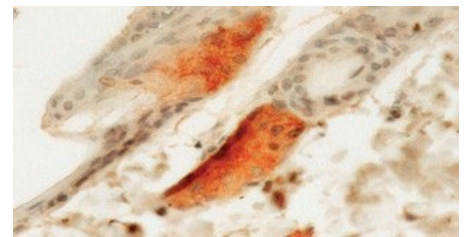
IGFBP-6 in human kidney



IGFBP-1 in rat kidney



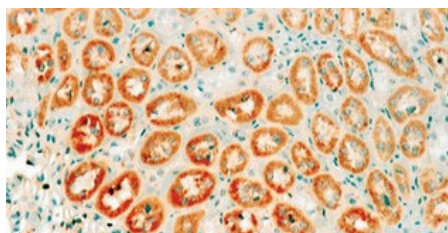
IGFBP-2 in rat kidney



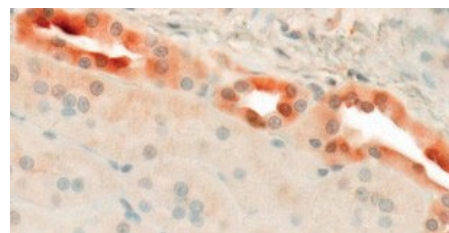
IGFBP-3 in rat sebaceous gland



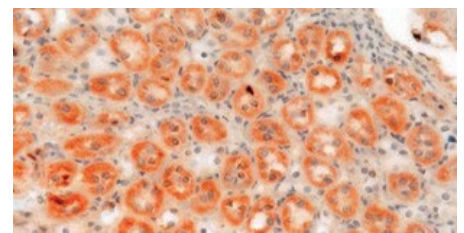
## Rat Tissue



IGFBP-4 in rat kidney



IGFBP-5 in rat kidney



IGFBP-6 in rat kidney

Antibody dilutions used: 1/50-1/50. Staining of 5µm sections from formalin fixed, paraffin-embedded human and rat tissues

For orders and enquiries contact GroPep Bioreagents via:

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