

## Recombinant Canine IGF2 Protein DataSheet

Catalog Number: GR122049

### Background

Insulin-like growth factor 2 (IGF-2) is one of three protein hormones that share structural similarity to insulin. IGF-2 is a well-characterized neutral peptide believed to be secreted by the liver and to circulate in the blood. It has growth-regulating, insulin-like and mitogenic activities. It is believed to be a major fetal growth factor in contrast to Insulin-like growth factor 1, which is a major growth factor in adults". The major role of IGF-2 is as a growth promoting hormone during gestation. IGF-2 exerts its effects by binding to the IGF-1 receptor. IGF2 may also bind to the IGF-2 receptor, which acts as a signaling antagonist; that is, to prevent IGF2 responses. In the process of folliculogenesis, IGF-2 is created by thecal cells to act in an autocrine manner on the theca cells themselves, and in a paracrine manner on granulosa cells in the ovary. IGF2 promotes granulosa cell proliferation during the follicular phase of the menstrual cycle, acting alongside follicle stimulating hormone (FSH). After ovulation has occurred, IGF-2 promotes progesterone secretion during the luteal phase of the menstrual cycle, together with luteinizing hormone (LH). Thus, IGF2 acts as a co-hormone together with both FSH and LH. IGF-2 may be linked to memory and reproduction.<sup>[1]</sup> Fear extinction-induced IGF2/IGFBP7 signaling promotes the survival of 17–19-day-old newborn hippocampal neurons. This suggests that therapeutic strategies that enhance IGF2 signaling and adult neurogenesis might be suitable to treat diseases linked to excessive fear memory such as PTSD.<sup>[2]</sup> Insulin-like growth factor 2 has been shown to interact with IGFBP3<sup>[3][4]</sup> and transferrin.<sup>[3]</sup>

### References

1. Chen DY, et al.(2011). Nature 469 (7331): 491–7.
2. Agis-Balboa RC, et al. (2011). The EMBO Journal 30 (19): 4071–83.
3. Storch S, et al. (2001). FEBS Letters 509 (3): 395–8.
4. Buckway CK, et al. (2001). The Journal of Clinical Endocrinology and Metabolism 86 (10): 4943–50.

### Related products

1. GR238016 50 ml Reagent Reservoir, 100/case, 5 packs/case (pack of 20)
2. GR238004 Tissue Culture 96-well Microplate, individually packed, Case of 50
3. GR238019 1.5 ml Microcentrifuge tube with screw cap and free-standing, pack of 500
4. GR238007 125 ml leak-resistant HDPE bottle, colorless, pack of 24
5. GR238002 Microplate 12x8-Well Strip High Binding, Case of 50
6. GR238003 Microplate 12x8-Well Strip Medium Binding, Case of 50
7. GR238032 42592 Costar Stripwell Microplate 1 x 8 Flat Bottom, High Binding, Case of 100
8. GR238001 468667 Thermo Microplate 12x8-Well Strip Nunc Maxixorp F8, Case of 60
9. GR238031 96-well microplate sealer plastic, pack of 100



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**Description**

**Source:** E. coli derived  
**Compositions:** Pro30 –Arg159  
**Accession #** A0A8C0KV88  
**N-terminal Sequence Analysis:** Pro30  
**Predicted Molecular Mass:** 15 kDa (monomer)

**Specifications**

**SDS-PAGE:** 30 kDa, reducing conditions  
**Activity** Measured in serum-free cell proliferation assay using MCF-7 human breast cancer cells. Karey KP et al. (1988) Cancer Res 48:4083. The ED50 for this effect is typically 2-7 ng/mL.  
**Endotoxin Level:** <0.1 EU per 1 µg of the protein by the LAL method.  
**Purity:** >95%, by SDSPAGE under reducing conditions and visualized by silver stain.  
**Formulation:** Lyophilized from a 0.2 µm filtered solution in acetic acid with BSA as a carrier protein.

**Preparation and Storage**

**Reconstitution:** Reconstitute at 50 µg/mL in sterile PBS containing 0.1% BSA.  
**Shipping:** The product is shipped at ambient temperature or with wet ice. Upon receipt, store it immediately at the temperature recommended below.  
**Stability & Storage:** Use a manual defrost freezer and avoid repeated freeze thaw cycles.

- 6 months from date of receipt, -20 to -70°C as supplied.
- 3 months, -20 to -70°C under sterile conditions after reconstitution.

**DECLARATION**

THIS REAGENT IS FOR IN VITRO LABORATORY TESTING AND RESEARCH USE ONLY. DO NOT USE IT FOR CLINICAL DIAGNOSTICS. DO NOT USE OR INJECT IT IN HUMANS AND ANIMALS.

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