# Product Data Sheet

Product Name: Insulin degludec
Cat. No.: GC67998

## Chemical Properties

| | | | |
|---|---|---|---|
| Cas. No. | 844439-96-9 | | |
| Formula | | M.Wt | |
| Solubility | | Storage | Store at -20°C |
| General tips | For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months. | | |
| Shipping Condition | Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request. | | |
| Structure | Insulin degludec | | |

## Background

IC50: 19.59 nM/L (insulin receptor)[2]

Insulin degludec is an ultra-long-acting form of **insulin** used for the treatment of hyperglycemia caused by type 1 and type 2 dabetes. Insulin degludec shows binding efficiency with an **$IC_{50}$** value of 19.59 nM/L for insulin receptor. Insulin degludec can be used for the research of type 1 and type 2 diabetes[1][2].

Insulin degludec (0.001-1000 nM; 12 h) binds with insulin receptor with an $IC_{50}$ value of 19.59 nM/L[2].

Insulin degludec (200 nM; 10 min) increases glucose uptake in HL-1 cells[2].

Western Blot Analysis[2]

| | |
|---|---|
| Cell Line: | HL-1 cardiomyocytes |
| Concentration: | 200 nM |


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| Incubation Time: | 0-60 min |
| Result: | Decreased the level of Akt phosphorylation after 5 and 10 min treatment. |

Insulin degludec (5 U/kg; s.c. once daily for 30 days) affects glucose homeostasis and liver metabolism in diabetic mice undergoing insulin-induced hypoglycemia[1].

| | |
|---|---|
| Animal Model: | Male Swiss mice with diabetes[1] |
| Dosage: | 5 U/kg |
| Administration: | Subcutaneous injection; 5 U/kg once daily for 30 days |
| Result: | Showed a fast response to insulin-induced hypoglycemia with a glycemic level at or slightly under 100 mg/dl after 60 min and this response effect can be abolished by cortisol. Diminished rates of glucose production and showed a low lactate production in livers. Increased the number of hepatocytes. |

[1]. Bataglini C, et al. Insulin degludec and glutamine dipeptide modify glucose homeostasis and liver metabolism in diabetic mice undergoing insulin-induced hypoglycemia. J Appl Biomed. 2021 Dec;19(4):210-219.
[2]. Hartmann T, et al. Effect of the long-acting insulin analogues glargine and degludec on cardiomyocyte cell signalling and function. Cardiovasc Diabetol. 2016 Jul


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