

Icodec 胰岛素 (Insulin Icodec)

来源：重组基因工程生产，大肠杆菌表达。

Source: Recombinant genetic engineering production, expressed in Escherichia coli.

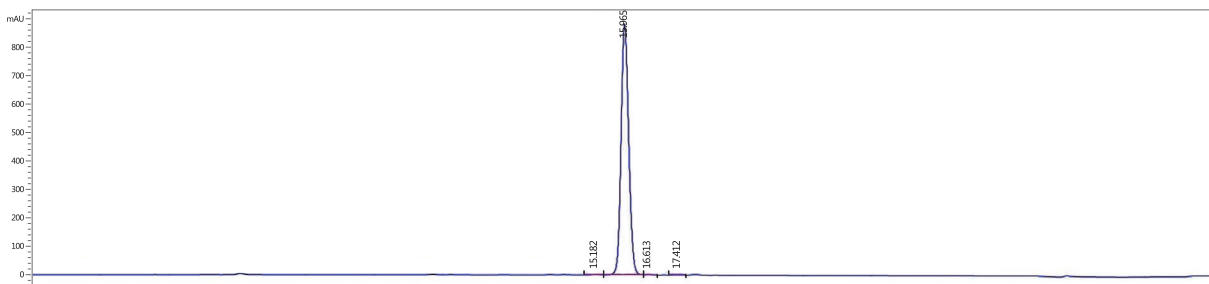
产品介绍 PRODUCT INTRODUCTION

Icodec胰岛素(Insulin Icodec)是通过重组DNA技术在大肠杆菌中表达，然后进行化学修饰得到的一种长效化的人胰岛素类似物。

其在结构上与人胰岛素相比：无人胰岛素B30位的苏氨酸，并引入C20的脂肪酸作为侧链。这一侧链通过低聚乙二醇 γ -L-谷氨酸(OEG γ -L-Glu)连接子与B29位的赖氨酸连接。这种分子结构的变化使得Icodec胰岛素能够与白蛋白实现强大且可逆的结合，从而显著延长其在体内的半衰期，达到了惊人的196小时，可以实现每周一次给药。另外它置换了人胰岛素序列的三处氨基酸：A14位的酪氨酸被替换为谷氨酸(A14E)，B16位的酪氨酸被替换为组氨酸(B16H)，以及B25位的苯丙氨酸被替换为组氨酸(B25H)。这些置换降低了其与胰岛素受体的亲和力，从而减少了胰岛素受体结合介导的清除，同时还可减少酶降解、增加分子稳定性。

Insulin Icodec is a long-acting human insulin analogue expressed in Escherichia coli through recombinant DNA technology and chemically modified.

Compared to human insulin in terms of structure, it has a threonine at the B30 position of unmanned insulin and introduces C20 fatty acids as side chains. This side of the chain passes through low polyethylene glycol γ -L-glutamic acid (OEG) γ -The L-Glu linker is linked to the lysine at position B29. This change in molecular structure allows Icodec insulin to achieve strong and reversible binding with albumin, significantly prolonging its half-life in vivo, reaching an astonishing 196 hours, and can be administered once a week. In addition, it replaces three amino acids in the human insulin sequence: tyrosine at position A14 is replaced with glutamic acid (A14E), tyrosine at position B16 is replaced with histidine (B16H), and phenylalanine at position B25 is replaced with histidine (B25H). These substitutions reduce their affinity with insulin receptors, thereby reducing insulin receptor binding mediated clearance, while also reducing enzyme degradation and increasing molecular stability.



本品原料药有关物质液相检测图谱

Liquid phase detection spectrum of substances related to the active pharmaceutical ingredient of this product

产品特性 PRODUCT FEATURES

产品来源 Product source	E.coli E.coli
产品外观 Product appearance	白色或类白色粉末 White or almost white powder
产品纯度 Product purity	≥ 99% ≥ 99%
质量标准 Quality standard	企业标准（符合国内IND要求） Enterprise standard (in compliance with domestic IND requirements)
储存条件 Storage conditions	-15°C及以下保存和运输 Storage and transportation at -15 °C and below
有效期 Validity period	暂定24个月 Tentatively 24 months

产品优势 PRODUCT ADVANTAGES

符合法规要求 COMPLIANT WITH REGULATORY REQUIREMENTS	本品原料药可用于科学研究，也可以用于国内IND申报。（详情请咨询本司） This raw material can be used for scientific research and can also be used for IND declaration in China. For detailed information, please consult our company.
质量文件完整 COMPLETE QUALITY DOCUMENTS	有完善的质量保证体系和质量文件。 There is a sound quality assurance system and quality documents.
无动物源性 NO ANIMAL ORIGIN	重组生产，无外源性的病毒污染，生产过程不使用任何动物源原料。 Recombinant production, no external virus contamination, and no use of animal origin raw materials in the production process.
质量稳定 STABLE QUALITY	批量生产，可保证稳定连续的批次生产；产品批次间差异小，质量稳定。 Mass production can ensure stable and continuous batch production; The difference between product batches is small, and the quality is stable.

相关产品 RELATED PRODUCTS

重组人胰岛素 Recombinant human insulin	德谷胰岛素 Deltamethrin	门冬胰岛素 Aspartic insulin
-------------------------------------	-----------------------	---------------------------

