EinnaFact®

Buserelin Acetate

The Fertility Road

Dosage Form and Composition

Contents

- Active substance: buserelin (as buserelin acetate); 1 ml of solution contains 1 mg of buserelin

Appearance & Pack

- Clear, colorless, sterile solution
- Supplied in packs containing one vial and a leaflet
- Each vial contains 5.5 mg of buserelin in 5.5 ml of solution

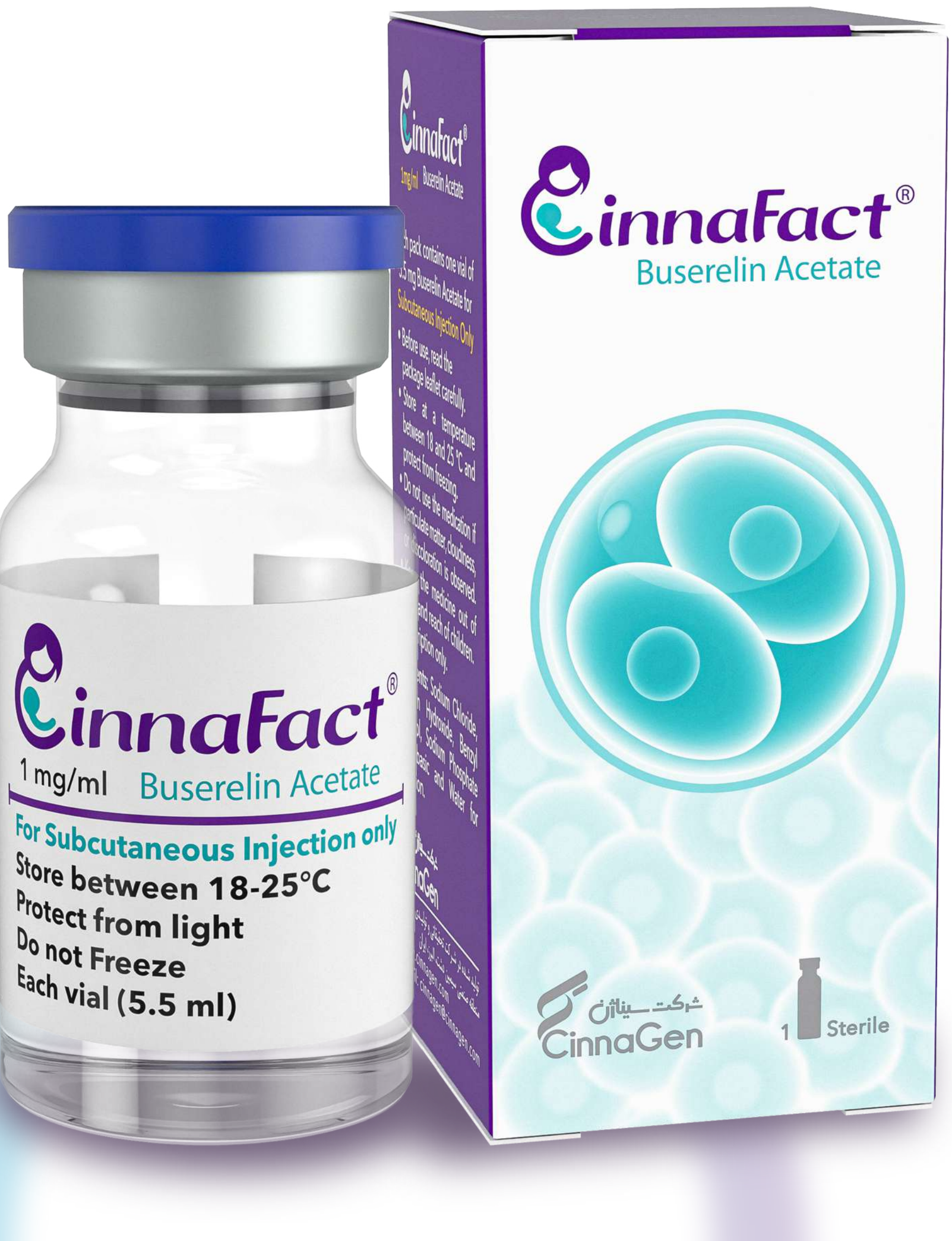
Indications & Dosing

The total daily subcutaneous dose for this indication is 0.5 mg buserelin, given in one injection. Treatment should start in the early follicular phase (day 1 or 2) or, provided the existence of an early pregnancy has been excluded, in the mid luteal phase (approx. day 21). It should continue at least until down-regulation is achieved (serum oestradiol < 50 ng/l and serum progesterone < 1 micrograms/l). This will usually take about 2-3 weeks.

In some patients dosages up to 2 x 0.5 mg may be required to achieve these levels. When down-regulation is achieved, stimulation with gonadotrophin is commenced while the dosage of buserelin is maintained. At the appropriate stage of follicular development, gonadotrophin and buserelin are stopped and human chorionic gonadotrophin (hCG) is given to induce ovulation. Treatment monitoring, oocyte transfer and fertilisation techniques are performed according to the normal practice of the individual clinic. Luteal support with hCG or progesterone should be given as appropriate.

Methods:

The article reviews various pharmacological agents for final oocyte maturation, including human chorionic gonadotropin (hCG), gonadotropin-releasing hormone agonists (GnRHa), dual trigger strategies, and emerging agents like kisspeptin. The review synthesizes findings from multiple studies to analyze the efficacy and safety profiles of these agents, including their impact on oocyte maturation rates, fertilization, and pregnancy outcomes.



CLINICAL DECISION TREE - TRIGGER CHOICE in IVF CYCLES

Step 1 - Assessment of ovarian response

POOR RESPONDER

< 4 follicles >= 14mm

low follicular recruitment in previous cycles

high proportion of immature oocyte

NORMO RESPONDER

6-8 follicles >= 14mm

E2 800- 3000 pg/ml

low - moderate OHSS risk

HIGH / HYPER RESPONDER

PCOS and/or AFC>= 20

18 follicles ≥12 - 14mm

IE2 > 3500 pg/ml

BRANCH A - POOR RESPONDER

previous cycle with low MII or >30% immature oocytes

Double trigger (GnRHa 40H + hCG 34h)

Suboptimal response but no OHSS risk

Dual trigger (GnRHa + hCG simultaneously)

Very low response (<3 follicles)

hCG alone {5000 - 10000 UI}

History of Empty Follicle Syndrome

Double Trigger ± rescure hCG if LH< 15 after trigger

BRANCH B -NORMO - RESPONDER

Standard scenario

hCG trigger {5000 - 1000 UI}

Previous cycle with high immature oocyte rate

Dual trigger (GnRHa + hCG simultaneously)

Moderate OHSS risk

GnRHa trigger + luteal rescue if needed

BRANCH C - HIGH / HYPER RESPONDER

PCOS/ High follicular count / very high E2

GnRha trigger + freeze all (preferred)

if Fresh is required (rare)

GnRHa trigger + low dose hCG 1500 IU luteal rescue use with caution)

The illustrated clinical decision tree presents a structured approach to trigger selection in IVF cycles, stratifying patients according to ovarian response and OHSS risk. The scheme highlights the expanding role of GnRH agonists—particularly buserelin—as a trigger option increasingly applicable beyond strictly high-risk patients. This framework reflects a progressive shift toward safer and more individualized trigger strategies in which buserelin can be used in a substantial proportion of IVF cycles with appropriate luteal phase support.

Key Findings:

- hCG remains the most widely used trigger but is associated with a significant risk of OHSS.
- GnRHa-based strategies, including dual trigger, have shown improvements in oocyte maturity and fertilization rates, particularly in patients at risk of OHSS.
- The timing of the trigger, based on follicle size, estradiol, and progesterone levels, significantly affects oocyte competence and IVF outcomes.

Contraindications

- Known hypersensitivity to CinnaFact® or any component of the formulation; patients who do not present with hormone-dependent prostate cancer; patients who have undergone orchiectomy.
- Additional contraindications: Undiagnosed abnormal vaginal bleeding; pregnancy; breastfeeding.

Adverse Reactions

In adjunctive use for ovulation induction, common adverse drug reactions include injection site reactions such as irritation, pain, swelling, and urticaria at the site of administration. In addition, transient hot flash and loss of libido may occur.

Pregnancy & Lactation Considerations

CinnaFact® is contraindicated in pregnant and lactating women.

Monitoring Parameters

- Blood glucose levels should be assessed at baseline and then checked periodically in patients with diabetes.
- Blood pressure should be measured regularly in patients with hypertension.
- Patients should be monitored for mood changes or signs/symptoms of depression.

Title of the Article: The Trigger in IVF Cycles: Molecular Pathways and Clinical Implications

Journal: International Journal of Molecular Sciences - 2025

Objective:

This review article examines the selection of ovulation triggers in in vitro fertilization (IVF) cycles, a key decision that influences oocyte maturation, fertilization, embryo development, and the risk of ovarian hyperstimulation syndrome (OHSS).

For More Information
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References

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Sky's the Limit

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