

# Synthesize high-yield 5mCΨ-RNA with reduced immune response

## INCOGNITO™ T7 5mC- & Ψ-RNA Transcription Kit

### Product Intro

Optimized for high-yield synthesis of 5-methyl-cytidine- pseudouridine-containing, *in vitro* transcribed RNA (5mCΨ-RNA), the INCOGNITO™ T7 5mC- & Ψ-RNA Transcription Kit allows for production of up to 100 µg of 5mCΨ-RNA from 1 µg of DNA template in two hours. Reactions can easily scale up to produce milligram amounts of 5mCΨ-RNA. Using 5mCΨ-mRNAs can induce lower innate immune responses in mammalian cells.

### Benefits

- **Optimized protocol:** Yield up to 100 µg of 5mCΨ-RNA from 1 µg of DNA template.
- **Lower immunogenicity:** Synthesized transcripts include 5mCTP and ΨTP for reduced immune response.
- **Scalable:** The standard reaction can be scaled up to produce milligram amounts of 5mCΨ-RNA.

### Product Description

The [INCOGNITO™ T7 5mC- & Ψ-RNA Transcription Kit](#) is optimized for high-yield synthesis of 5-methyl-cytidine- pseudouridine-containing RNA (5mCΨ-RNA) from an *in vitro* transcription (IVT) reaction. A standard two-hour, 20 µl reaction yields up to 100 µg of 5mCΨ-RNA from 1 µg of DNA template thanks to the high-performance T7-Scribe™ enzyme. The reaction can be scaled up to produce milligram amounts of RNA containing ATP, GTP, ΨTP, and 5mCTP. Modified 5mCΨ-mRNAs translate into higher protein levels and induce lower innate immune responses in mammalian cells expressing various RNA sensors compared to unmodified mRNAs. INCOGNITO™ T7 IVT 5mCΨ-RNA can be further processed into mRNA (5'-capped and 3'-poly[A] tailed) using [ScriptCap™ Cap 1 Capping System](#) (contains both [ScriptCap™ Capping Enzyme](#) and [2'-O-Methyltransferase](#)) and [A-Plus™ Poly\(A\) Polymerase Tailing Kit](#), available separately.

### Product Performance

The INCOGNITO™ T7 5mC- & Ψ-RNA Transcription Kit is functionally tested under standard reaction conditions using the T7 Control Template DNA. The kit must produce at least 90 µg of RNA from 1 µg of the T7 Control Template DNA in two hours at 37°C.

The recommended reaction conditions should give excellent yields of RNA with most templates. However, the yield may be improved for some templates by extending the reaction time (e.g., to four hours), increasing the amount of template in the reaction, or increasing the reaction temperature from 37°C to 42°C.



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### Ordering information

Catalog Number	Description
C-ICTMY110510	INCOGNITO™ T7 5mC- & Ψ-RNA Transcription Kit (10 reactions)

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