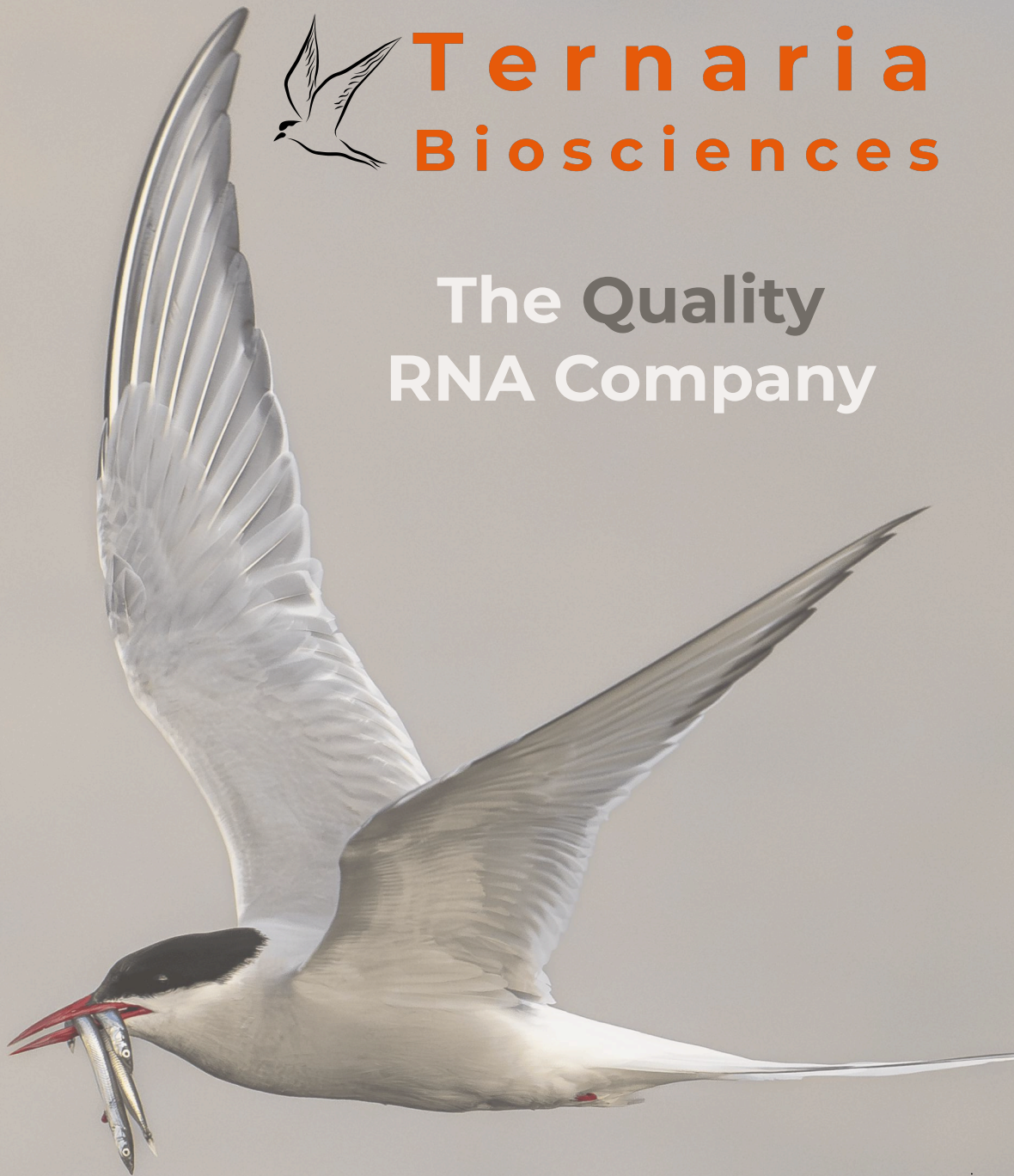




Ternaria
Biosciences

**The Quality
RNA Company**



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www.ternariabio.com or contact us at ternariabio@ternariabio.com

About us

Ternaria Biosciences was founded in Reykjavik, Iceland, in the autumn of 2021 with the clear goal to improve the quality of RNA.

With initial focus on RNA polymerases, we have developed:

- ➔ AI-based platform, **ArtZymeAI™** for creating customized enzymes for diverse applications.
- ➔ Proprietary **ArtPure™** purification platform that enables production of highly pure RNA polymerases, resulting in high quality RNA.

RNA purity is important for maximizing RNA activity and minimizing potential side effects in clinical settings. We believe that innovation with a focus on quality in RNA production is key to the success of the RNA medicine revolution.

Our focus is on **purity**

mRNA

Messenger RNA (mRNA) is an emerging class of therapeutic agents for the prevention and treatment of a wide range of diseases with high potential for revolutionizing life science and medical research.

mRNA is produced in a cell-free system and uses no animal derived raw materials, making the manufacturing of these molecules safe due to the absence of cell-derived impurities and contaminations. The *in vitro* transcription (IVT) enzymatic reaction used to generate mRNA relies on **RNA polymerases** to catalyze the synthesis of the target mRNA.



ArtPure™ RNA Polymerases

T7, SP6 and T3 RNA Polymerases are routinely used, with T7 being the most widely employed for mRNA production in both academia and industry.

At Ternaria, through our proprietary **ArtPure™ purification platform**, we generate ultra-pure RNA polymerases, characterized by:

- ➔ > 99% enzyme **purity**
- ➔ No added enzyme inhibitors
- ➔ Animal origin-free (AOF)
- ➔ Lyophilized option for **eco-friendly** shipping and storage
- ➔ High specific enzymatic activity resulting in **high quality RNA**



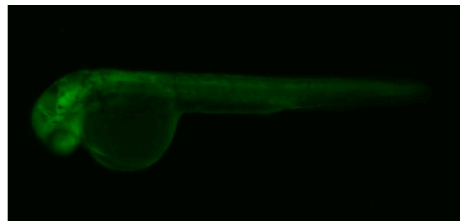
ZebraScribe and IceScribe Transcription Kits

ZebraScribe Transcription Kit, containing our T7 or SP6 **ArtPure™ RNA Polymerases**, has been carefully optimized to ensure maximum yields, transcript integrity and capping efficiency.

Figure 1 shows fluorescent EGFP protein expression following mRNA injection of mRNA encoding EGFP, produced with Ternaria's ZebraScribe Transcription Kit, compared to a leading supplier. Equal amounts of mRNA were injected, however, resulting in increased EGFP expression with ZebraScribe mRNA.



Ternaria



Supplier A

Figure 1. Expression of EGFP encoding mRNA generated with Ternaria ZebraScribe or Supplier A Transcription Kit.



ArtZymeAI™ RNA Polymerases

At Ternaria Biosciences, we have developed a **proprietary AI-based screening platform** for generating novel RNA Polymerases.

The **ArtZyme™ platform** enables the generation of custom made novel RNA polymerases tailored to improve specific RNA quality parameters and suited for specific RNA structural elements.

We utilize the platform for the design and development of **RNA Polymerases** that specifically suit our **customers needs**.



Customized mRNA production

Ternaria Biosciences offers customized mRNA produced with our **ArtPure™ purification platform** and specialized transcription kit for applied research.

Table 1 shows results from a Ternaria collaborator in which salmon eggs were injected using Ternaria's custom made mRNA encoding EGFP. The mRNA was made using our ZebraScribe IVT reaction and compared to a kit from a lead supplier. Eggs were analyzed for EGFP signal 4 days post injection, and roughly twice as many eggs were positive for EGFP using Ternaria mRNA, as when compared with supplier A.

	RNA Conc. (ng/μL)	No. eggs observed	% EGFP+
Supplier A	260	31	35
Ternaria	260	23	74
Un-injected	NA	35	0

Table 1. Injection of EGFP-nanos 3'UTR mRNA into salmon eggs made with ZebraScribe kit (SP6 and ARCA cap). Eggs were imaged 4 days post injection.