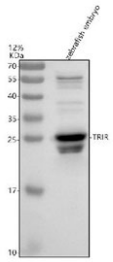
Zebrafish Trir Antibody / Telomerase RNA component interacting RNase (RZ1053)

Catalog No.	Formulation	Size
RZ1053	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	A0A0R4IP71
Applications	Western Blot : 0.5-1 ug/ml
Limitations	This Zebrafish Trir antibody is available for research use only.



Western blot analysis of Trir protein using Zebrafish Trir antibody and zebrafish embryo tissue lysate. The predicted molecular weight of Trir is ~18 kDa, commonly observed at 18-28 kDa.

Description

Zebrafish (Danio rerio) Trir antibody recognizes Telomerase RNA component interacting RNas, encoded by the zebrafish trir gene. TRIR is a conserved nuclear-associated protein that interacts with the telomerase RNA component and contributes to the regulation of telomerase assembly, ribonucleoprotein stability, and RNA metabolism. In Danio rerio embryos, Trir expression is detected broadly during early stages and is enriched in proliferative tissues such as developing brain, neural tube, somites, heart, notochord, and endoderm-derived organs including liver and pancreas. Subcellular localization is primarily nuclear, often concentrated in nucleoplasmic regions associated with RNA processing and ribonucleoprotein assembly.

TRIR plays an important role in telomerase biology. Telomerase is essential for maintaining chromosome end integrity, particularly in rapidly dividing embryonic cells. By interacting with telomerase RNA, TRIR contributes to the formation or stability of telomerase holoenzyme complexes. This activity supports chromosome maintenance during early cell divisions, influences replicative capacity, and helps sustain genome stability across tissues undergoing rapid proliferation. Disruption of TRIR-associated processes may lead to altered telomere dynamics, impaired cell cycle progression, or genomic stress responses during development.

Neural development shows strong dependence on RNA-processing factors such as Trir. Neural progenitors divide quickly and rely on efficient ribonucleoprotein assembly to support transcriptional output, RNA stability, and cell cycle regulation. TRIR may influence neural tube formation, early brain patterning, and neuronal differentiation by supporting telomerase-associated functions and RNA metabolism. Because neural tissues are particularly sensitive to genomic instability, TRIR-mediated chromosomal maintenance contributes to proper neurodevelopment and progenitor survival.

In cardiac tissue, where embryonic cells undergo continuous proliferation and high metabolic stress, TRIR supports genome integrity and transcriptional regulation required for heart tube formation and myocardial maturation. Similar roles apply in somites and developing musculature, where controlled cell division and nuclear stability are essential for myotome differentiation and early muscle organization. Endoderm-derived tissues, including liver and pancreas, also rely on proper RNA metabolism and telomerase regulation to sustain rapid expansion and metabolic specialization.

Beyond telomerase-related functions, TRIR participates in broader RNA regulatory pathways. Its interactions with ribonucleoprotein complexes may influence RNA processing, stability, or localization in ways that contribute to lineage specification. Zebrafish embryos experience dramatic transcriptional reprogramming during gastrulation, segmentation, and organogenesis; TRIR-associated regulatory functions help maintain RNA homeostasis and support developmental transitions. In addition, TRIR may be involved in cellular stress responses, as proper telomerase and RNA regulation are important for protecting proliferative tissues from oxidative and metabolic challenges.

This Zebrafish Trir antibody is suitable for detecting Telomerase RNA component interacting RNas in research focused on telomerase regulation, RNA metabolism, nuclear ribonucleoprotein assembly, chromosomal stability, and early developmental processes in zebrafish. It supports studies examining genome maintenance during embryogenesis, RNA regulatory networks, and phenotypes arising from altered telomerase-associated function. NSJ Bioreagents provides this reagent within its zebrafish and RNA-regulation antibody collection.

Application Notes

Optimal dilution of the Zebrafish Trir antibody should be determined by the researcher.

Immunogen

An E.coli-derived zebrafish Trir recombinant protein (amino acids W144-K164) was used as the immunogen for the Zebrafish Trir antibody.

Storage

After reconstitution, the Zebrafish Trir antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.