

Department of Pediatrics

Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences

Our mission: Our mission at Okayama University is to promote advanced medicine and innovative research in medical care for infants, children, and adolescents and their families.

Our principal clinical fields: Neonatal medicine, Infectious diseases, Allergy and immunology, Cardiology, Hematology and cancer, Nephrology, Endocrinology and metabolism, Gastroenterology and hepatology, Psychosocial medicine, Critical care medicine, Medical genetics

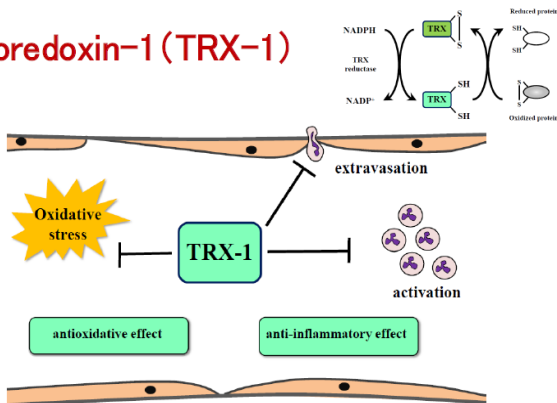
Our principal research fields:

- Development of most effective medical treatment for sick neonates and infants
 - Target diseases: neonatal respiratory distress, late circulatory collapse
- Advancement of innovative multidisciplinary strategies for severe infectious and inflammatory diseases
 - Target diseases: septic syndrome, acute encephalitis/encephalopathy, autoimmune disorders
- Advancement of specialized interventions and stem cell therapies for severe heart diseases
 - Target diseases: complex congenital heart defects, severe heart failure
- Advancement of comprehensive treatment for high-risk leukemia, cancer and sarcoma
 - Target diseases: leukemia, lymphoma, neuroblastoma, brain tumors
- Development of diagnostic genetic testing for intractable metabolic disorders
 - Target diseases: congenital bone and mineral disorders

Recent selected publications:

- Tsuge M, et al. Gene expression analysis in children with complex seizures due to influenza A(H1N1)pdm09 or rotavirus gastroenteritis. *J Neurovirol* 2014
- Yashiro M, et al. Redox-active protein thioredoxin-1 administration ameliorates influenza A virus (H1N1)-induced acute lung injury in mice. *Crit Care Med* 2013
 - Part of the results is illustrated in Figures 1 and 2
- Baba K, et al. Hybrid versus Norwood strategies for single-ventricle palliation. *Circulation* 2012

Thioredoxin-1 (TRX-1)



From: Yashiro M, Tsukahara H, Morishima T. Thioredoxin therapy: Challenges in translational research. (*Oxidative Stress in Applied Basic Research and Clinical Practice - Pediatric Disorders* 2014)

Fig. 1 - TRX-1 is used as a biomarker and pharmaceutical target in the pediatric population.

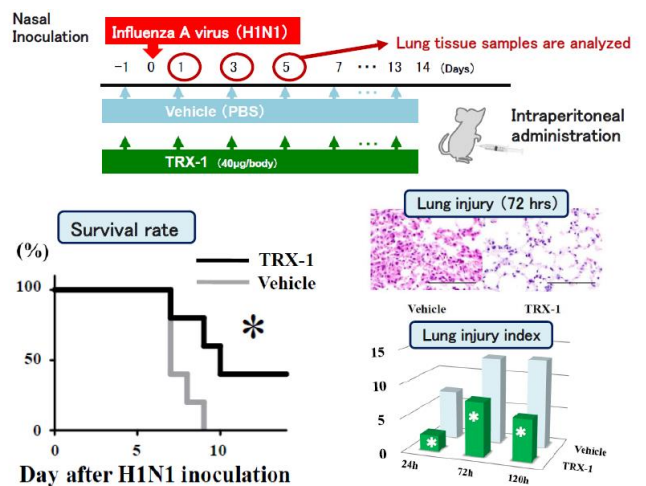


Fig. 2 - Exogenous administration of rhTRX-1 ameliorates the lethal effects of influenza pneumonia in mice through antioxidative and anti-inflammatory actions.

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