

Erythroferrone (human) ELISA Kit

The only Specific & Sensitive Assay on the Market!

Erythroferrone (also called Myonectin, CTRP15, Fam132B or ERFE) is a hormone produced by erythroblasts in the bone marrow in response to erythropoietin controlling iron storage release or is a myokine abundantly expressed in skeletal muscle tissue, upregulated by voluntary exercise. Erythroferrone/Myonectin is a potential clinical biomarker for assessing erythropoiesis in patients with blood disorders, to study iron homeostasis for cardiovascular/heart protection, and potentially for metabolic disorders.

**JUST
RELEASED**

NEW Erythroferrone (human) ELISA Kit

AG-45B-0014

96 wells

Sensitivity: 270 pg/ml

Range: 0.3125 to 20 ng/ml

Sample: Cell Culture Supernatant, Plasma, Serum

This Erythroferrone (human) ELISA Kit is a Sandwich assay based on two antibodies and is to be used for the *in vitro* quantitative determination of human Erythroferrone in cell culture supernatants, serum and plasma. Levels of Erythroferrone measured by this ELISA kit in serum and plasma correspond to mouse protein levels (~ 500 ng/ml).

FEATURES OF THIS ASSAY

- ✓ High Specificity
- ✓ High Sensitivity
- ✓ High Reproducibility
- ✓ Tested & Validated on many Samples
- ✓ Swiss Quality Guarantee



MANUFACTURED IN SWITZERLAND

This ELISA Kit is for Research Use Only (RUO).

Scientific Background

Erythroferrone (also called Myonectin, CTRP15 or Fam132B) is a member of CTRPs (C1q/TNF-related proteins), which are conserved paralogs of adiponectin containing collagen-like and globular C1q-like domains. Erythroferrone plays two different regulatory roles (see also Figure):

i) Erythroferrone (called Myonectin for this role) is a myokine abundantly expressed in skeletal muscle tissue, upregulated by voluntary exercise that is suppressed by fasting and induced by refeeding; it participates in the regulation of systemic lipid metabolism by promoting the clearance of nonesterified fatty acids (NEFA) from circulation. As a myokine, Erythroferrone/Myonectin acts as an endurance exercise-driven myokine which protects the heart from ischemic injury by reducing cardiomyocyte apoptosis and macrophage inflammatory response.

ii) Erythroferrone is produced by erythroblasts after bleeding or Erythropoietin (EPO) treatment and acts on hepatocytes to suppress expression of the hormone hepcidin. Erythroferrone inhibition of hepcidin allows ferroportin, the sole known iron exporter, to mediate the release of iron stored in gut, spleen and liver in the blood plasma. Erythroferrone functions as erythroid modulator of iron metabolism and hemoglobin synthesis.

Erythroferrone is therefore a biomarker for different types of anemia, for cardiological diseases and potentially also for metabolic diseases.

LITERATURE REFERENCES:

Myonectin (CTRP15), a novel myokine that links skeletal muscle to systemic lipid homeostasis: M.M. Seldin, et al.; J. Biol. Chem. **287**, 11968 (2012)

Identification of Erythroferrone as an Erythroid Regulator of Iron Metabolism: L. Kautz, et al; Nat. Genet. **46**, 678 (2014)

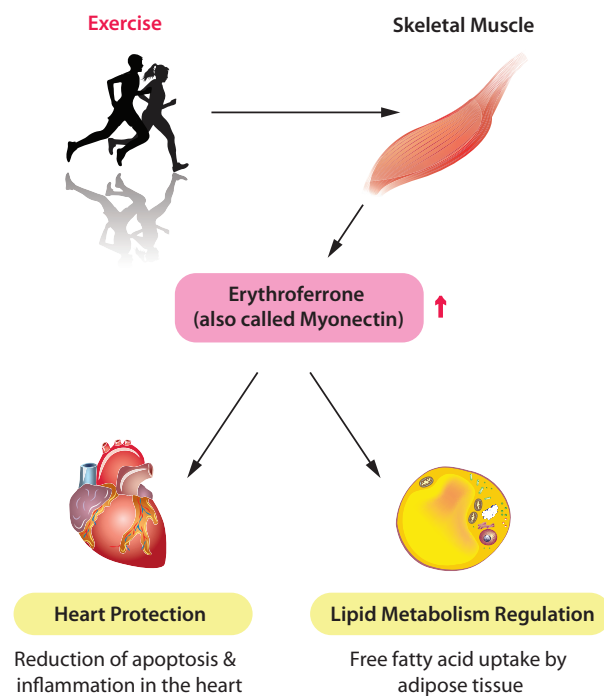
Is erythroferrone finally the long sought-after systemic erythroid regulator of iron? A. Lawen; World. J. Biol. Chem. **6**, 78 (2015)

Myonectin Is an Exercise-Induced Myokine That Protects the Heart from Ischemia/Reperfusion Injury: N. Otaka, et al; Circ. Res. **123**, 1326 (2018)

Erythroferrone inhibits the induction of hepcidin by BMP6: J. Arezes, et al; Blood **132**, 1473 (2018)

Erythropoietic regulators of iron metabolism: T. Ganz; Free Radic. Biol. Med. **133**, 69 (2019)

Cardiovascular & Lipid Metabolism Function



Iron / Erythroblasts Regulation

