PRODUCT DATA SHEET
MOUSE ANTI-HUMAN EPO-R MONOCLONAL ANTIBODY

PRODUCT INFORMATION

Catalog Number:	GM-1202	**Clone:**	VP-2E8
Description:	purified monoclonal mouse antibody	**Specificity:**	anti-human Epo-R
Isotype:	IgG1/kappa	**Purification:**	Protein G
Storage:	short term: 2°C – 8°C; long term: –20°C (avoid repeated freezing and thawing)	**Buffer:**	phosphate buffered saline, pH 7.2
Immunogen:	genetic immunization with cDNA encoding the ECD of human Epo-R	**Selection:**	based on recognition of the complete native protein expressed on transfected and endogenously-expressing mammalian cells

WORKING DILUTIONS

Flow cytometry:	1.2 µg/10^6 cells		
Immunoprecipitation:	See ref. 5	**CELISA:**	1:200 - 1:400
For each application a titration should be performed to determine the optimal concentration.			

SPECIFICITY TESTING BY IMMUNOPRECIPITATION

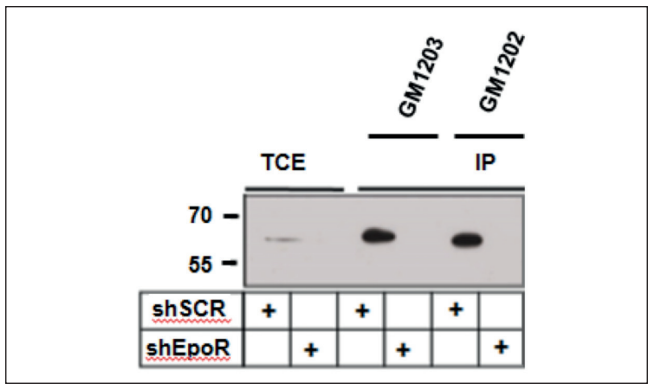

Fig. 1: Immunoprecipitation of EpoR with GM-1202 and GM-1203 from A549 lung carcinoma cells expressing control (shSCR) and three EpoR-specific small hairpin RNAs (shEpoR). GM-1201 was used for Western blot detection. TCE = Total Cell Extract. For more details see reference 5.

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CGE ANALYSIS OF GM-1202

The antibody was purified by protein G affinity chromatography from cell culture supernatants and verified by CGE (Fig. 2).

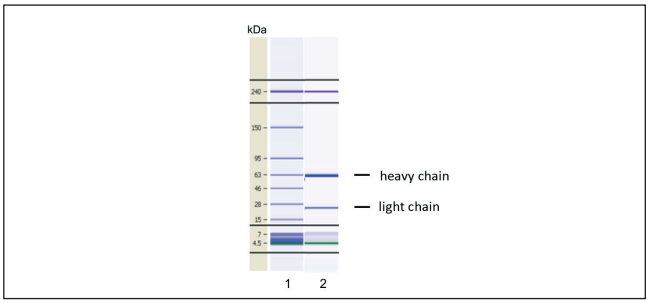

Fig. 2: CGE analysis of purified VP-2E8 monoclonal antibody.
Lane 1: molecular weight marker, Lane 2: 2 µg of purified VP-2E8 antibody. Proteins were separated by CGE (capillary gel electrophoresis, Agilent 2100 Bioanalyzer). Internal control bands (240 kDa / 7 kDa / 4,5 kDa).

BACKGROUND

Erythropoietin receptor (Epo-R) belongs to the cytokine receptor family and is a 507 amino acid type I transmembrane protein. EpoR pre-exists as dimers which changes the homodimerized state after binding of its 34 kDa ligand erythropoietin (Epo) (1, 2). Erythropoietin is the primary regulator of erythropoiesis, and promotes the survival, proliferation, and differentiation of erythroid progenitor cells. Both, Epo and Epo-R are essential for the production of red blood cells due to Epo exerts its function through the Epo receptor (3). The Epo-R is also expressed in many organs outside the bone marrow, suggesting that Epo is a pleiotropic anti-apoptotic factor. Signaling pathways have been shown to influence numerous cellular functions in normal and tumor cells, including proliferation, apoptosis, and drug resistance (4). Development and specificity testing of the GM1202 antibody are described in detail elsewhere (5).

REFERENCES

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2. ***Livnah O, Stura EA, Middleton SA, Johnson DL, Jolliffe LK, Wilson IA (1999).*** Crystallographic evidence for preformed dimers of erythropoietin receptor before ligand activation. Science 283 (5404): 987–90
3. ***Wilson IA, Jolliffe LK (1999).*** The structure, organization, activation and plasticity of the erythropoietin receptor. Curr Opin Struct Biol.; 9(6):696-704
4. ***Hedley BD, Allan AL, Xenocostas A (2011).*** The role of erythropoietin and erythropoiesis-stimulating agents in tumor progression. Clin Cancer Res. 15; 17(20):6373-80
5. ***Maxwell P et al. (2015).*** Novel antibodies directed against the human erythropoietin receptor: creating a basis for clinical implementation. Br J Haematol; 168(3):429-42. doi: 10.1111/bjh.13133. Epub 2014 Oct 4