Recombinant Mouse EPCR

Catalog Number: 9068-ER

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Leu18-Ser214, with a C-terminal 10-His tag Accession # AAC42049
N-terminal Sequence Analysis	Leu18
Predicted Molecular Mass	24 kDa

SPECIFICATIONS

SDS-PAGE	36-47 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Human Activated Protein C is immobilized at 3 µg/mL (100 µL/well), the concentration of Recombinant Mouse EPCR that produces 50% of the optimal binding response is approximately 0.1-0.6 µg/mL
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

The endothelial protein C receptor (EPCR), also known as CD201, is an approximately 50 kDa transmembrane glycoprotein expressed on vascular endothelial cells and functions as a negative regulator of thrombosis (1). Mature mouse EPCR consists of a 197 amino acid extracellular domain (ECD), a 21 aa transmembrane segment, and a 7 aa cytoplasmic tail (2). Within the ECD, mouse EPCR shares 65% and 85% aa sequence identity with human and rat EPCR, respectively. EPCR inhibits thrombosis through its interactions with Protein C, activated Protein C (APC), and Coagulation Factors VII, and VIIa (3, 4). It enhances the activation of Protein C in response to complexes of Thrombin-Thrombomodulin (5). In humans, a soluble form of EPCR can be produced by alternative splicing or ADAM17/TACE mediated shedding (6-9), and this protein inhibits the anti-coagulant activity of APC (10, 11). EPCR can be degraded on the surface of endothelial cells by Neutrophil Elastase (12). Activation of EPCR also protects vascular endothelial cells from Thrombin-induced apoptosis (13). EPCR binds to CD11b/CD18 (Mac-1) on monocytes and mediates monocyte adhesion to the vascular endothelium (14). In addition, EPCR binds to the antigen receptor on γδ T cells (15), promotes hematopoietic stem cell retention in the bone marrow (9), and binds to surface proteins of some species of Plasmodium, contributing to pathogenicity in severe malaria (16).

References:

1. Montes, R. *et al.* (2012) Thromb. Haemost. **107**:815.
2. Fukudome, K. and C.T. Esmon (1995) J. Biol. Chem. **270**:5571.
3. Fukudome, K. and C.T. Esmon (1994) J. Biol. Chem. **269**:26486.
4. Ghosh, S. *et al.* (2007) J. Biol. Chem. **282**:11849.
5. Stearns-Kurosawa, D.J. *et al.* (1996) Proc. Natl. Acad. Sci. USA **93**:10212.
6. Saposnik, B. *et al.* (2008) Blood **111**:3442.
7. Qu, D. *et al.* (2007) J. Thromb. Haemost. **5**:395.
8. Xu, J. *et al.* (2000) J. Biol. Chem. **275**:6038.
9. Gur-Cohen, S. *et al.* (2015) Nat. Med. **21**:1307.
10. Kurosawa, S. *et al.* (1997) J. Clin. Invest. **100**:411.
11. Liaw, P.C. *et al.* (2000) J. Biol. Chem. **275**:5447.
12. Villegas-Mendez, A. *et al.* (2007) J. Thromb. Haemost. **5**:980.
13. Bae, J.-S. *et al.* (2007) Blood **110**:3909.
14. Fink, K. *et al.* (2013) PLoS One **8**:e53103.
15. Willcox, C.R. *et al.* (2012) Nat. Immunol. **13**:872.
16. Turner, L. *et al.* (2013) Nature **498**:502.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449