

## BVES Protein, Human (GST)

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| <b>Cat. No.:</b>         | HY-P75597  |
| <b>Synonyms:</b>         | Blood vessel epicardial substance; hBVES; Popeye protein 1; BVES; POP1; POPDC1 |
| <b>Species:</b>          | Human  |
| <b>Source:</b>           | E. coli  |
| <b>Accession:</b>        | Q8NE79 (M1-N36)  |
| <b>Gene ID:</b>          | 11149  |
| <b>Molecular Weight:</b> | Approximately 32.2 kDa   |

### PROPERTIES

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|--------------------------------|--|
| <b>Appearance</b>              | Lyophilized powder.  |
| <b>Formulation</b>             | Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.                                      |
| <b>Endotoxin Level</b>         | <1 EU/µg, determined by LAL method.  |
| <b>Reconstitution</b>          | It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.  |
| <b>Storage &amp; Stability</b> | Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage. |
| <b>Shipping</b>                | Room temperature in continental US; may vary elsewhere.  |

### DESCRIPTION

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| <b>Background</b> | <p>The BVES protein functions as a crucial cell adhesion molecule implicated in the establishment and maintenance of cell integrity. It plays a pivotal role in the formation and regulation of tight junction (TJ) paracellular permeability barriers within epithelial cells. Additionally, BVES is actively involved in VAMP3-mediated vesicular transport, facilitating the recycling of various receptor molecules through its interaction with VAMP3. The protein's influence extends to the modulation of Rho-family GTPase activity, impacting cell shape and movement through its interaction with ARHGEF25/GEFT. Notably, BVES induces primordial adhesive contacts and aggregation of epithelial cells in a Ca<sup>2+</sup>-independent manner. Beyond its involvement in epithelial functions, BVES contributes to striated muscle regeneration and repair, regulating cell spreading. Its significance extends to the maintenance of cardiac function, where it plays a regulatory role in heart rate dynamics, likely mediated through cAMP-binding and an increase in the cell surface expression of the potassium channel KCNK2, enhancing current density. Moreover, BVES acts as a caveolae-associated protein, crucial for preserving both structural and functional integrity, offering protection against ischemia injury in the heart. The protein forms homodimers, a process facilitated by the C-terminus cytoplasmic region, and interacts with various partners such as TJP1, ARHGEF25/GEFT, VAMP3, KCNK2, and CAV3, each interaction contributing to its multifaceted roles and regulatory functions.</p> |
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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