Data Sheet (Cat.No.TMPY-04130)

TargetMol

ARF1 Protein, Human, Recombinant (His)

General Information

Synonyms:	ARF1;ADP ribosylation factor 1
Protein Construction:	A DNA sequence encoding the human ARF1 (P84077) (Met1-Lys181) was expressed with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	E. coli
Accession:	P84077
Molecular Weight:	22.5 kDa (predicted); 23 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Invasion of tumor cells is a key step in metastasis that depends largely on the ability of these cells to degrade the extracellular matrix. The ARF1+ARF4 and ARF1+ARF3 pairs are both required for integrity of recycling endosomes but are involved in distinct transport pathways: the former pair regulates retrograde transport from endosomes to the TGN, whereas the latter is required for the transferrin recycling pathway from endosomes to the plasma membrane. The ADP-ribosylation factors (ARFs) 1 and 6 are small GTP-binding proteins, highly expressed and

activated in several breast cancer cell lines and are associated with enhanced migration and invasiveness. ARF1 is a key role in invasion of breast cancer cells and suggest that targeting the ARF/Rho/MLC signaling axis might be a promising strategy to inhibit invasiveness and metastasis. ARF1 regulates cell migration and provide this GTPase as a target for the development of new therapeutics in triple negative breast cancer. ADP-ribosylation factor 1 (ARF1) is a crucial regulator in vesicle-mediated membrane trafficking and involved in the activation of signaling molecules. The aberrant MAPK signaling in prostate cancer is, at least in part, under the control of ARF1 and that, similar to Ras, ARF1 is a critical regulator in prostate cancer progression. ARF1 may represent a key molecular target for prostate cancer therapeutics and diagnosis.

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