

Recombinant Human FOLR1 Protein, His&Avi tagged

Cat. No. FOLR1-178H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Human FOLR1 (Arg25-Met233) with C-terminus His-Avi Tag is expressed in CHO cells.
Species	Human
Source	CHO
Conjugation/Label	25-233 aa
Description	Folate receptor alpha (FOLR1), also known as FRα or folate receptor 1, is a high-affinity, glycosylphosphatidylinositol (GPI)-anchored cell surface protein primarily responsible for binding and internalizing folate and its derivatives. Folates are essential vitamins that participate in one-carbon metabolism, supporting nucleotide synthesis and methylation reactions crucial for DNA replication and repair. FOLR1 mediates cellular uptake of folate through receptor-mediated endocytosis, complementing the activity of other folate transporters such as the reduced folate carrier (RFC) and the proton-coupled folate transporter (PCFT). Structurally, FOLR1 is a glycoprotein of approximately 38–42 kDa, composed of a single extracellular domain anchored to the plasma membrane via a GPI linkage. The extracellular domain contains a hydrophobic binding pocket that specifically recognizes and binds reduced folate and folate analogs with nanomolar affinity. Structural studies have revealed that this pocket is formed by β-sheets and loop regions that precisely accommodate the pterin and glutamate moieties of folate. The protein's GPI anchor localizes it to lipid rafts, membrane microdomains involved in signaling and

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endocytosis, thereby facilitating efficient internalization and trafficking of folate-loaded vesicles. FOLR1 has a particularly high expression in certain normal tissues, including the kidneys, placenta, and choroid plexus, but its expression in most normal epithelial tissues is limited. In contrast, FOLR1 is markedly overexpressed in several epithelial-derived cancers, such as ovarian, endometrial, breast, non-small cell lung, and renal carcinomas. This differential expression pattern plays a role in oncogenesis, as tumor cells exploit high folate uptake to support their increased proliferative demands. Moreover, FOLR1 expression correlates with tumor aggressiveness and poor prognosis in some cancers, making it a valuable biomarker for diagnosis and targeted therapy. Therapeutically, FOLR1 serves as an attractive target for cancer treatment due to its selective tumor overexpression. Strategies exploiting this receptor include folate–drug conjugates (e.g., vintafolide), antibody–drug conjugates (ADCs) such as mirvetuximab soravtansine, and folate-based imaging agents for tumor detection. These therapies deliver cytotoxic agents specifically to FOLR1-positive cancer cells, minimizing off-target effects. Clinical trials have shown promising efficacy, particularly in ovarian cancers with high FOLR1 expression, establishing the receptor as a key biomarker and therapeutic target in precision oncology.

Form	Liquid, 1×PBS buffer, pH7.4, 0.22 µm filtered
Molecular Mass	The protein has a predicted molecular weight of 26.5kDa. Under DTT-reducing conditions, it migrates at approximately 35-45 kDa on SDS-PAGE.
Purity	>95% based on SDS-PAGE under reducing condition
Applications	ELISA, BLI
Storage	Briefly centrifuge the vial upon receipt. An unopened vial can be stored at 4 centigrade for up to 2 weeks, or at -20 centigrade or below for up to six months. The protein may be further diluted to 0.1 mg/mL using 0.22 µm-filtered PBS buffer (pH

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7.4). For long-term storage, the diluted stock solution should be aliquoted and stored at ≤ -70 centigrade to minimize freeze-thaw cycles. If additional dilution is required, carrier proteins such as FBS or BSA should be added to maintain protein stability.

Concentration

25 μ g size is bottled at 0.2 mg/mL concentration. 100 μ g size is supplied at a lot-specific concentration.

GENE INFORMATION

Gene Name FOLR1 folate receptor 1 (adult) [Homo sapiens (human)]

Official Symbol FOLR1

Synonyms

FOLR1; folate receptor 1 (adult); FOLR; folate receptor alpha; FR-alpha; KB cells FBP; folate binding protein; folate receptor, adult; adult folate-binding protein; ovarian tumor-associated antigen MOV18; FBP;

Gene ID 2348

mRNA Refseq NM_000802

Protein Refseq NP_000793

MIM 136430

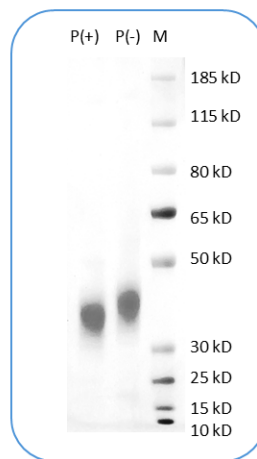
UniProt ID P15328

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SDS-PAGE



Human FOLR1 Protein (C-His-Avi) on SDS-PAGE under reducing condition (P+) and non-reducing condition (P-). The gel was stained for 1 hour with BlinkBlue. The purity of this protein appears to be greater than 95%.