

## Data Sheet

### PSMA (FOLH1)-CHO Recombinant Cell Line (Medium Expression) Catalog # 79641-M

#### **Description**

Recombinant clonal stable CHO cell line constitutively expressing full length human PSMA protein (Genbank #NM\_004476.1). Surface expression of PSMA was confirmed by flow cytometry. This clonal cell line was selected for medium level expression of PSMA. Clones exhibiting higher and lower levels of PSMA expression are also available (#79641-H and 79641-L). Each stable clonal cell line was selected for different levels of PSMA expression to mimic different stages of cancer target cells with various PSMA expression levels.

#### **Background**

PSMA (prostate-specific membrane antigen), also known as Folate hydrolase 1 (FOLH1), is expressed at high levels on prostate cancer cells. It has been reported to play a role in tumor progression through the PI3K-Akt and MAPK-ERK1/2 pathways. PSMA/FOLH1 has been used as a target for imaging prostate cancer and is expressed in other tumor types and some normal tissues. Currently, PSMA/FOLH1 is the target of clinical trials of CAR-T cells and bi-specific antibodies.

#### **Application**

Useful for screening and validating antibodies against PSMA and PSMA CAR-T for immunotherapy research and drug discovery. Also useful for PSMA binding assays to screen for PSMA ligands.

#### **Host Cell**

CHO K1 cell line, Chinese Hamster Ovary

#### **Format**

Each vial contains ~ 2.5 x 10<sup>6</sup> cells in 1 ml of FBS + 10% DMSO.

#### **Storage**

Store in liquid nitrogen immediately upon receipt.

OUR PRODUCTS ARE FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

AMSBIO | [www.amsbio.com](http://www.amsbio.com) | [info@amsbio.com](mailto:info@amsbio.com)

 **UK & Rest of the World**  
184 Park Drive, Milton Park  
Abingdon OX14 4SE, UK  
T: +44 (0)1235 828 200  
F: +44 (0) 1235 820 482

 **North America**  
1035 Cambridge Street,  
Cambridge, MA 02141  
T: +1 (617) 945-5033 or  
T: +1 (800) 987-0985  
F: +1 (617) 945-8218

 **Germany**  
Bockenheimer Landstr. 17/19  
60325 Frankfurt/Main  
T: +49 (0) 69 779099  
F: +49 (0) 69 13376880

 **Switzerland**  
Centro Nord-Sud 2E  
CH-6934 Bioggio-Lugano  
T: +41(0) 91 604 55 22  
F: +41(0) 91 605 17 85

## Cell Culture

**Thaw Medium 3 (#60186):** Ham's F-12K medium (Hyclone,#SH30526.01) supplemented with 10% FBS (Life Technologies, #26140-079), 1% Penicillin/Streptomycin (Hyclone, #SV30010.01).

**Growth Medium 3B (#79529):** Thaw Medium 3 (#60186) plus 500 µg/ml Hygromycin (Thermo Fisher/Life Technologies, #10687010).

## Recommended Culture Condition

Thawing cells: Prepare a 15 ml conical tube with 10 ml of pre-warmed Thaw Medium 3 (**no hygromycin**). Quickly thaw cells in a 37°C water bath with constant and slow agitation. Clean the outside of the vial with 70% ethanol and immediately transfer the entire content to Thaw Medium 3 (**no hygromycin**). Avoid pipetting up and down, and gently rock the conical tube.

Spin the cells down at 150 x g for 5 minutes. Discard the medium and re-suspend the cell pellet in fresh Thaw Medium 3 (**no hygromycin**). Transfer the entire content to a T75 flask to distribute the cells. Incubate the cells in a humidified 37°C incubator with 5% CO<sub>2</sub>. After 48-72 hours of incubation, change to fresh Thaw Medium 3 (**no hygromycin**), without disturbing the attached cells. Switch to Growth Medium 3B at the first passage.

*Subculture:* When cells reach 90% confluency, remove the medium and wash twice with PBS (without magnesium or calcium). Treat cells with 1 ml of 0.05% trypsin/EDTA and incubate for 2-3 minutes at 37°C. After confirming cell detachment by light microscopy, add 14 ml pre-warmed medium and gently pipette up and down to dissociate cell clumps. Dispense 0.5 ml of the cell suspension into a new T75 flask containing 9.5 ml pre-warmed media. Incubate cells in a humidified 37°C incubator with 5% CO<sub>2</sub>. Cells should be split twice per week at a 1:30 split ratio. Freeze cells in Thaw Medium 3 + 10% DMSO. Cells have been demonstrated to be stable for at least 20 passages; AMSBIO recommends preparing frozen stocks at an early passage.

## Mycoplasma Testing

This cell line has been screened using the Quick Test Mycoplasma Detection Kit (Biotool.com, #B39032) to confirm the absence of Mycoplasma contamination.

## Application References

1. Zuccolotto, G., *et al.* PSMA-specific CAR-engineered T cells eradicate disseminated prostate cancer in preclinical models. *PLOS One*. 2014 Oct, **9(10)**: 1-12.
2. Junghans, R., *et al.* Phase I trial of anti-PSMA designer CAR-T cells in prostate cancer: possible role for interacting interleukin 2-T cell pharmacodynamics as a determinant of clinical response. *Prostate*. 2016 Oct, **76(14)**: 1257-1270.
3. Shengnan, Y., *et al.* Recent advances of bispecific antibodies in solid tumors. *Journal of Hematology and Oncology*. 2017, **10 (155)**: 1-16.
4. Kaittanis, C., *et al.* Prostate-specific membrane antigen cleavage of vitamin B9 stimulates oncogenic signaling through metabotropic glutamate receptors. *J. Exp. Med.* 2018 Jan 2, **215(1)**: 159-175.

OUR PRODUCTS ARE FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

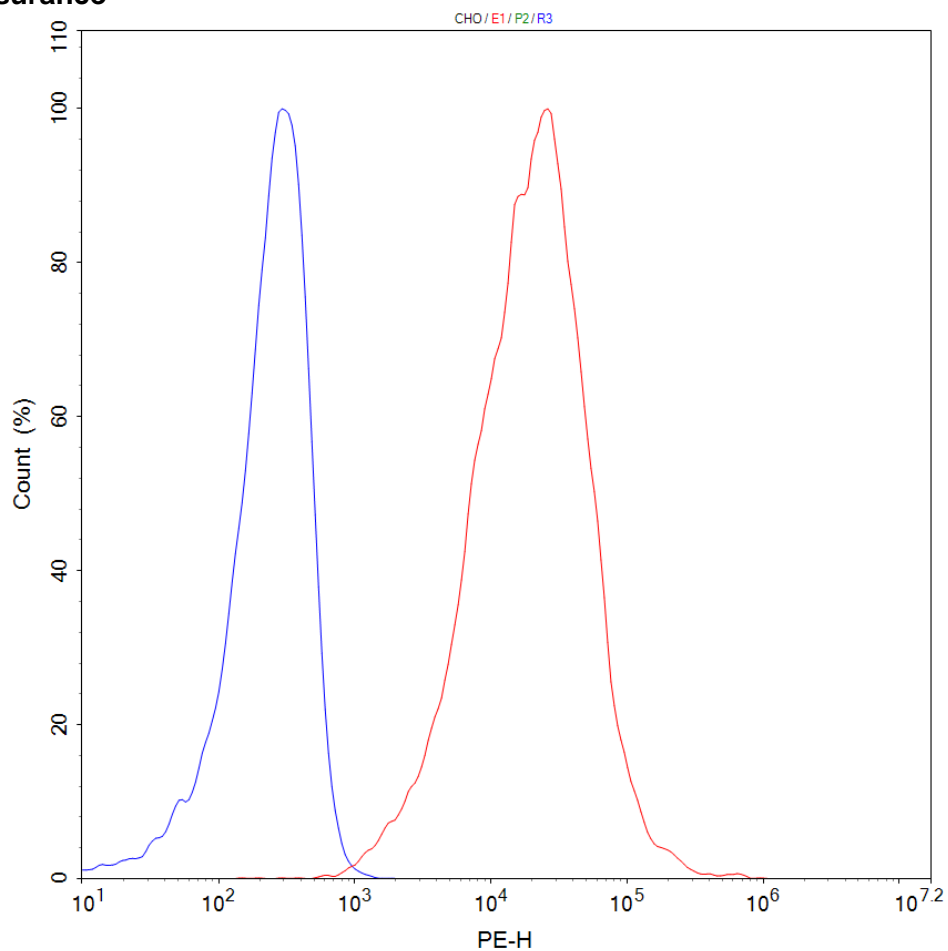
## Vector and Sequence

Human PSMA (NM\_004476.1) was cloned into pCMV3.

```
ATGTGGAATCTCCTTCACGAAACCGACTCGGCTGTGGCCACCGCGCGCCGCCCGCGCTGGCTGTG
CGCTGGGGCGCTGGTGTGGCGGGTGGCTTCTTTCTCCTCGGCTTCTTTCGGGTGGTTTATAAA
ATCCTCCAATGAAGCTACTAACATTACTCCAAGCATAATATGAAAGCATTTTTGGATGAATTGAAAGC
TGAGAACATCAAGAAGTTCTTATATAATTTTACACAGATACCACATTTAGCAGGAACAGAACAAAACCTT
TCAGCTTGCAAAGCAAATCAATCCAGTGGAAGAATTTGGCCTGGATTCTGTTGAGCTAGCTCATT
ATGATGTCCTGTTGTCTACCCAAATAAGACTCATCCAACTACATCTCAATAATTAATGAAGATGGA
AATGAGATTTTCAACACATCATTATTTGAACCACCTCCTCCAGGATATGAAAATGTTTCGGATATTGTA
CCACCTTTCAGTGCTTCTCCTCAAGGAATGCCAGAGGGCGATCTAGTGTATGTTAACTATGCAC
GAACTGAAGACTTCTTTAAATTGGAACGGGACATGAAAATCAATTGCTCTGGGAAAATTGTAATTGCC
AGATATGGGAAAGTTTTTCAAGGAAATAAGGTTAAAATGCCAGCTGGCAGGGGCCAAAGGAGTC
ATTCTCTACTCCGACCCTGCTGACTACTTTGCTCCTGGGGTGAAGTCCTATCCAGACGGTTGGAATC
TTCTGGAGGTGGTGTCCAGCGTGGAATATCCTAAATCTGAATGGTGCAGGAGACCCTCTCACACC
AGGTTACCCAGCAAATGAATATGCTTATAGGCGTGGAATTGCAGAGGCTGTTGGTCTTCCAAGTATT
CCTGTTTCAATTTGGATACTATGATGCACAGAAGCTCCTAGAAAAAATGGTGGCTCAGCACCAC
CAGATAGCAGCTGGAGAGGAAGTCTCAAAGTGCCCTACAATGTTGGACCTGGCTTTACTGAAAATTT
TTCTACACAAAAAGTCAAGATGCACATCCACTCTACCAATGAAGTGACAAGAATTTACAATGTGATAG
GTACTCTCAGAGGAGCAGTGGAACCAGACAGATATGTCATTCTGGGAGGTCACCGGACTCATGGG
TGTTTGGTGGTATTGACCCTCAGAGTGGAGCAGCTGTTGTTTCAATGAAATTGTGAGGAGCTTTGGAAC
ACTGAAAAAGGAAGGGTGGAGACCTAGAAGAACAATTTTGTGTTGCAAGCTGGGATGCAGAAGAATTT
GGTCTTCTTGGTTCTACTGAGTGGGCAGAGGAGAATCAAGACTCCTTCAAGAGCGTGGCGTGGCTT
ATATTAATGCTGACTCATCTATAGAAGGAACTACACTCTGAGAGTTGATTGTACACCGCTGATGTAC
AGCTTGGTACACAACCTAACAAAAGAGCTGAAAAGCCCTGATGAAGGCTTTGAAGGCAAATCTCTTT
ATGAAAGTTGGACTAAAAAAGTCTTCCCCAGAGTTCAGTGGCATGCCCAGGATAAGCAAATTTGGG
ATCTGGAAATGATTTTGGAGTGTCTTCCAACGACTTGAATTTGCTTCAGGCAGAGCACGGTATACTA
AAAATTGGGAAACAAACAAATTCAGCGGCTATCCACTGTATCACAGTGTCTATGAAACATATGAGTTG
GTGGAAAAGTTTTATGATCCAATGTTTAAATATCACCTCACTGTGGCCAGGTTTCGAGGAGGGATGG
TGTTTGGAGCTAGCCAATTCATAGTGCTCCCTTTTATTGCTGCGAGATTATGCTGTAGTTTTAAGAAAGT
ATGCTGACAAAATCTACAGTATTTCTATGAAACATCCACAGGAAATGAAGACATACAGTGTATCATTT
GATTCACTTTTTTCTGCAGTAAAGAATTTTACAGAAATTGCTTCCAAGTTCAGTGAGAGACTCCAGGA
CTTTGACAAAAGCAACCAATAGTATTAAGAATGATGAATGATCAACTCATGTTTCTGGAAAGAGCAT
TTATTGATCCATTAGGGTTACCAGACAGGCCTTTTTATAGGCATGTCATCTATGCTCCAAGCAGCCAC
AACAAAGTATGCAGGGGAGTCATTCCCAGGAATTTATGATGCTCTGTTTATGATTGAAAGCAAAGTGG
CCCTTCCAAGGCCTGGGGAGAAGTGAAGAGACAGATTTATGTTGCAGCCTTACAGTGCAGGCAGC
TGCAGAGACTTTGAGTGAAGTAGCCTAAMWNLLHETDSAVATARRRPWLCAAGLVLAGGFFLLGFLFG
WFIKSSNEATNITPKHNMKAFLDELKAENIKKFLYNFTQIPHLAGTEQNFQLAKQIQSQWKEFGLDSVELA
HYDVLLSYPNKTHPNYISIIINEDGNEIFNTSLFEPPIPGYENVSIVPPFSFSPQGMPEGDLVYVNYARTE
DFFKLERDMKINCSGKIVIARYGKVFRGNKVKNAQLAGAKGVILYSDPADYFAPGVKSYPDGWNLPGGG
VQRGNILNLNAGADPLTPGYPANAYARRGIAEAVGLPSIPVHPVIGYDAQKLLKMGGSAPPDSSWRG
SLKVPYVNGPFGFTLNKSTQKVKMHIHSTNEVTRIVNIGTLRGAVEPDRYVILGHRDSWVFGIDPQSG
AAVVEIVRSFGTLKKEGWRRPRTILFASWDAEEFLLGSTEWAEENSRLQERGVAYINADSSIEGNYT
LRVDCTPLMYSLVHNLTKELKSPDEGFEGKSLYESWTKKSPSPEFSGMPRISKLGSGNDFEVFFQRLGIA
SGRARYTKNWETNKFSGYPLYHVSVEYELVEKFYDPMFKYHLTVAQVRGGMVFEANLIVLFPDCRDY
AVVLRKYADKIYSISMKHPQEMKYSVSFDSLFSVKNFTEIASKFSERLQDFDKSNPIVLRMMNDQLMFL
ERAFIDPLGLPDRPFYRHVIYAPSSHNKYAGESFPGIYDALFDIESKVDPSKAWGEVKRQIYVAAFTVQAA
AETLSEVA
```

OUR PRODUCTS ARE FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

## Quality Assurance



**Figure 1. Expression of PSMA validated by flow cytometry.** Flow cytometry using PE-conjugated anti-human FOLH1/PSMA antibody (Biolegend, #342504) detects PSMA on the surface of PSMA-CHO Recombinant Cell Line, #79641-M. (PSMA-CHO, red; CHO parental, blue).

**License Disclosure:** Purchase of this cell line grants you with a 10-year license to use this cell line in your immediate laboratory, for research use only. This license does not permit you to share, distribute, sell, sublicense, or otherwise make the cell line available for use to other laboratories, departments, research institutions, hospitals, universities, or biotech companies. The license does not permit the use of this cell line in humans or for therapeutic or drug use. The license does not permit modification of the cell line in any way. Inappropriate use or distribution of this cell line will result in revocation of the license and result in an immediate cease of sales and distribution of AMSBIO products to your laboratory. AMSBIO does not warrant the suitability of the cell line for any particular use and does not accept any liability in connection with the handling or use of the cell line. Modifications of this cell line, transfer to another facility, or commercial use of the cells may require a separate license and additional fees; contact [info@amsbio.com](mailto:info@amsbio.com) for details.

### **Related Products**

<b>Product</b>	<b>Cat. #</b>	<b>Size</b>
PSMA (FOLH1)-CHO Recombinant Cell Line (High Expression)	79641-H	2 vials
PSMA (FOLH1)-CHO Recombinant Cell Line (Low Expression)	79641-L	2 vials
Growth Medium 3B	79529	500 ml
Thaw Medium 3	60186	100, 500ml
CD123 (IL3Ra)-CHO Recombinant Cell Line (High Expression)	79640-H	2 vials
CD123 (IL3Ra)-CHO Recombinant Cell Line (Medium Expression)	79640-M	2 vials
CD123 (IL3Ra)-CHO Recombinant Cell Line (Low Expression)	79640-L	2 vials
CD19-CHO Recombinant Cell Line (High Expression)	79561-H	2 vials
CD19-CHO Recombinant Cell Line (Medium Expression)	79561-M	2 vials
CD19-CHO Recombinant Cell Line (Low Expression)	79561-L	2 vials
CD22-CHO Recombinant Cell Line (High Expression)	79557-H	2 vials
CD22-CHO Recombinant Cell Line (Medium Expression)	79557-M	2 vials
BCMA-CHO Recombinant Cell Line (Medium Expression)	79500-M	2 vials
BCMA-CHO Recombinant Cell Line (High Expression)	79500-H	2 vials
BCMA-CHO Recombinant Cell Line (Low Expression)	79500-L	2 vials

OUR PRODUCTS ARE FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

AMSBIO | [www.amsbio.com](http://www.amsbio.com) | [info@amsbio.com](mailto:info@amsbio.com)

 **UK & Rest of the World**  
 184 Park Drive, Milton Park  
 Abingdon OX14 4SE, UK  
 T: +44 (0)1235 828 200  
 F: +44 (0) 1235 820 482

 **North America**  
 1035 Cambridge Street,  
 Cambridge, MA 02141  
 T: +1 (617) 945-5033 or  
 T: +1 (800) 987-0985  
 F: +1 (617) 945-8218

 **Germany**  
 Bockenheimer Landstr. 17/19  
 60325 Frankfurt/Main  
 T: +49 (0) 69 779099  
 F: +49 (0) 69 13376880

 **Switzerland**  
 Centro Nord-Sud 2E  
 CH-6934 Bioggio-Lugano  
 T: +41(0) 91 604 55 22  
 F: +41(0) 91 605 17 85