

# Product Information

## MemDX™ Human MPL BaF3 Cell Line

Cat. No.: **S01YF-0324-KX220**

This product is for research use only and is not intended for diagnostic use.

### Product Information

#### Target Protein

MPL

#### Target Protein Species

Human

#### Host Cell Type

BaF3

#### Target Classification

Kinases/Enzyme

#### Target Family

Kinases/Enzyme

#### Target Research Area

Cancer Research

#### Related Diseases

Myelofibrosis; Amegakaryocytic Thrombocytopenia

### Product Properties

#### Assay Types

Functional assay and biological assay

#### Stability

16 passages

#### Mycoplasma Testing

Negative

#### Biosafety Level

Level 1

#### Activity

Yes

#### Form

Frozen cells

#### **Freeze Medium**

90% FBS+10% DMSO

#### **Culture Medium**

RPML-1640+10%FBS

#### **Selective Antibiotic(s)**

Regular antibiotics active against mycoplasmas, bacteria and fungi.

#### **Handling Notes**

Frozen cells should be thawed immediately upon receipt and grown according to handling procedure to ensure cell viability and proper assay performance.

Note: Do not freeze the cells upon receipt as it may result in irreversible damage to the cell line.

Disclaimer: We cannot guarantee cell viability if the cells are not thawed immediately upon receipt and grown according to handling procedure.

#### **Incubation**

37°C with 5% CO<sub>2</sub>

#### **Applications**

Anti-proliferation assay and PD assay

#### **Application Notes**

Cells were plated in a 384-well plate and incubated overnight at 37°C and 5% CO<sub>2</sub> to allow the cells to attach and grow. Cells were then stimulated with a control for high-throughput drugs screening and functional assays.

#### **Use Restrictions**

These cells are distributed for research use only.

#### **Shipping**

Dry ice

#### **Storage**

Liquid nitrogen

### **Target**

#### **Full Name**

MPL proto-oncogene, thrombopoietin receptor

#### **Introduction**

In 1990 an oncogene, v-mpl, was identified from the murine myeloproliferative leukemia virus that was capable of immortalizing bone marrow hematopoietic cells from different lineages. In 1992 the human homologue, named, c-mpl, was cloned. Sequence data revealed that c-mpl encoded a protein that was homologous with members of the hematopoietic receptor superfamily. Presence of anti-sense oligodeoxynucleotides of c-mpl inhibited megakaryocyte colony formation. The ligand for c-mpl, thrombopoietin, was cloned in 1994. Thrombopoietin was shown to be the major regulator of megakaryocytopoiesis and platelet formation. The protein encoded by the c-mpl gene, CD110, is a 635 amino acid transmembrane domain, with two extracellular cytokine receptor domains and two intracellular cytokine receptor box motifs. TPO-R deficient mice were severely thrombocytopenic, emphasizing the important role of CD110 and thrombopoietin in megakaryocyte and platelet formation. Upon binding of thrombopoietin CD110 is dimerized and the JAK family of non-receptor tyrosine kinases, as well as the STAT family, the MAPK family, the adaptor protein Shc and the receptors themselves become tyrosine phosphorylated.

#### **Alternative Names**

MPL; MPLV; TPOR; C-MPL; CD110; THPOR; THCYT2; thrombopoietin receptor; TPO-R; myeloproliferative leukemia protein; myeloproliferative leukemia virus oncogene; proto-oncogene c-Mpl; MPL proto-oncogene, thrombopoietin receptor

**Gene ID**

4352

**UniProt ID**

P40238