

**Table S1.** Mutations with documented activity relevant to cancer in MCF-7 cells. Selected mutations by Census tiers 1 from COSMIC (<https://cancer.sanger.ac.uk/cosmic>).

Gene symbol	Gene Name	AA mutation	CDS mutation	Type
ATP2B3	ATPase plasma membrane Ca <sup>2+</sup> transporting 3	<a href="#">p.V882E</a>	<a href="#">c.2645T&gt;A</a>	Substitution - Missense
EP300	E1A binding protein p300	<a href="#">p.R1356*</a>	<a href="#">c.4066C&gt;T</a>	Substitution - Nonsense
ERBB4	Erb-b2 receptor tyrosine kinase 4	<a href="#">p.Y1242C</a>	<a href="#">c.3725A&gt;G</a>	Substitution - Missense
FUS	FUS RNA binding protein	<a href="#">p.D502del</a>	<a href="#">c.1503_1505del</a>	Deletion - In frame
GATA3	GATA binding protein 3	<a href="#">p.D336Gfs*17</a>	<a href="#">c.1006dup</a>	Insertion - Frameshift
KMT2C	Lysine methyltransferase 2C	<a href="#">p.I3590L</a>	<a href="#">c.10768A&gt;C</a>	Substitution - Missense
LATS1	Large tumor suppressor kinase 1	<a href="#">p.D1043N</a>	<a href="#">c.3127G&gt;A</a>	Substitution - Missense
MAP3K13	Mitogen-activated protein kinase kinase kinase 13	<a href="#">p.D380N</a>	<a href="#">c.1138G&gt;A</a>	Substitution - Missense
MYH9	Myosin heavy chain 9	<a href="#">p.K682_L687del</a>	<a href="#">c.2044_2061del</a>	Deletion - In frame
PIK3CA	Phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha	<a href="#">p.E545K</a>	<a href="#">c.1633G&gt;A</a>	Substitution - Missense