

## iSTEM®

<b>Catalogue Number</b>	SCS-SF-ES-01
<b>Size</b>	iSTEM consists of two components which must be combined prior to use: <ul style="list-style-type: none"><li>• 100 mL media</li><li>• 100 µL supplement (NOTE : Supplement contains DMSO)</li></ul> Larger volumes are available upon request.
<b>Applications</b>	Demonstrated applications of iSTEM include: <ul style="list-style-type: none"><li>• Culture of mouse embryonic stem (ES) cells in serum-free, feeder-free conditions, in the absence of stimulatory signalling pathways</li><li>• Derivation of mouse ES cell lines from recalcitrant mouse strains</li></ul>
<b>Description</b>	<p>iSTEM is a proprietary, defined, cell culture medium, for the derivation, maintenance and propagation of mouse (ES) cells in the 'ground state' of self-renewal<sup>1</sup>. The medium contains three selective small molecule inhibitors that act to eliminate differentiation-inducing signals and promote cell survival, enabling the maintenance of the pluripotent, ground state without the requirement for stimulatory cytokines. This makes iSTEM the medium of choice for studying the molecular basis of pluripotency.</p> <p>iSTEM can also be used to derive mouse ES lines from mouse strains refractory to ES cell derivation under standard conditions<sup>1</sup>, and for developmental biology and embryology studies.</p> <p>Mouse ES cells cultured in iSTEM show continual expansion at a doubling rate comparable to that of culture in Leukemia Inhibitory Factor (LIF) plus serum/Bone Morphogenetic Protein (BMP)<sup>1</sup>. Culture in iSTEM also leads to cells exhibiting enhanced clonogenicity, with a higher frequency of pluripotent colonies established after single cell deposition than seen in LIF plus serum/BMP conditions.</p>
<b>Storage</b>	<p>Upon receipt, store at -20°C until ready to use. When stored under these conditions, the product is stable for 6 months from the date of manufacture (see label).</p> <p>Once thawed, store at 4°C and use within 2 weeks.</p>
<b>Preparation</b>	Thaw the 100 µL supplement at room temperature (for no longer than 5 minutes), and microfuge immediately. Add aseptically to warmed medium and mix to ensure the supplement is thoroughly distributed. Do not filter sterilize.
<b>Quality control</b>	SC Proven® media products undergo rigorous quality control procedures before release.
<b>References</b>	<ol style="list-style-type: none"><li>1. Ying QL, Wray J, Nichols J, Batlle-Morera L, Doble B, Woodgett J, Cohen P, Smith A (2008) The ground state of embryonic stem cell self-renewal. <i>Nature</i> <b>453</b>:519-523</li></ol>