**Product Specification Sheet**

**Product Name**  
Stemolecule™ SB431542  

**Description**  
SB431542 is an inhibitor of the transforming growth factor-beta 1 (TGF-β1) activin receptor-like kinases (ALKs). It is a selective and potent inhibitor of ALK-4, -5 and -7. SB431542 inhibits endogenous activin and TGF-β signaling without affecting more divergent bone morphogenetic protein (BMP) signaling utilizing ALK-1, -2, -3, and -6. SB431542 stimulates proliferation, differentiation, and sheet formation of endothelial cells derived from embryonic stem cells.

**Catalog Number**  
04-0010-10  

**Size**  
10 mg  

**Alternate Name**  
4-[4-[1,3-benzodioxol-5-yl]-5-pyridin-2-yl-1H-imidazol-2-yl]benzamide

**Chemical Formula**  
C\textsubscript{22}H\textsubscript{16}N\textsubscript{4}O\textsubscript{3}  

**Molecular Weight**  
384.4  

**CAS Number**  
301836-41-9 (anhydrous)  

**Purity**  
Greater than 98% by HPLC analysis  

**Formulation**  
White solid  

**Solubility**  
For a 10 mM concentrated stock solution of SB431542, reconstitute the compound by adding 2.6 ml of DMSO to the entire contents of the vial. If precipitate is observed, warm the solution to 37°C for 2 to 5 minutes. For cell culture, the media should be prewarmed prior to adding the reconstituted compound. Note: for most cells, the maximum tolerance to DMSO is greater than 0.5%. This molecule is soluble in DMSO at 100 mM.

**Storage and Stability**  
Store powder at 4°C protected from light. Following reconstitution, store aliquots at -20°C. Stock solutions are stable for 6 months when stored as directed.

**Quality Control**  
The purity of SB431542 was determined by HPLC analysis. The accurate mass was determined by mass spectrometry. Cellular toxicity of SB431542 was tested on mouse embryonic stem cells.
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References

