

# Chem-Impex International, Inc.

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825 Dillon Drive

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## Certificate of Analysis

<b>Catalogue Number</b>	14834
<b>Lot Number</b>	000127-1051853
<b>Product</b>	<b>(S)-3-(4-Boc-piperazin-1-yl)-2-(Fmoc-amino) propionic acid</b> Fmoc- $\beta$ -(1-piperaziny)-L-Ala(Boc)-OH
<b>CAS Number</b>	313052-20-9
<b>Molecular Formula</b>	C <sub>27</sub> H <sub>33</sub> N <sub>3</sub> O <sub>6</sub>
<b>Molecular Weight</b>	495.58

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<b>Appearance</b>	White powder
<b>Appearance of Solution</b>	Clear, colorless solution (50 mg/mL in THF)
<b>Water Content (Karl Fisher)</b>	0.3%
<b>TLC System</b>	Toluene/ dioxane/ acetic acid 95/25/4 Chloroform/ methanol/ acetic acid 90/8/2 Chloroform/ methanol/ toluene/ water 8/8/8/1 Plate: silicagel 60 F <sub>254</sub> detected by: UV, ninhydrin, TMB
<b>Assay</b>	92.1% (Nfd 7.81% by elemental analysis)
<b>Purity by HPLC</b>	98.4% (TFA)
<b>Purity by TLC</b>	> 99%
<b>ESI-MS</b>	m = 495.6 u (average mass)
<b>Storage</b>	Store at 0-8 °C

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**Remarks**

See material safety data sheet for additional information

For laboratory use only

**The foregoing is a copy of the Certificate of Analysis as provided by our supplier**



**Bala Kumar**  
**Quality Control Manager**