



Technical Data Sheet

Lyophilized SMCC-Activated Allophycocyanin (Lyo SMCC-APC)

<u>Specification</u>	A651/A280 \geq 4.7 SMCC/APC: 1.5~3
<u>Property</u>	Molecular Weight 105 KD Absorption Maximum 651 nm Emission Maximum 662 nm
<u>Storage</u>	Store Lyo SMCC-APC in dark at 2~8°C with desiccant; if possible, in desiccant. Do not freeze.
<u>Package</u>	2 mg Lyo SMCC-APC lyophilized powder is prepared in 10 mM K-P buffer with sugar as additive. No ammonium sulfate or other material may interfere conjugation is contained in this product.
<u>Description</u>	Lyo SMCC-APC is treated with SMCC under conditions that result in only 1.5~3 moles SMCC on one mole of phycobiliprotein ensuring the best yield of conjugate with minimal formation of aggregates. This derivative protein has been purified to remove excess SMCC and lyophilized; thus quite suitable for long term storage without losing the maleimide reactivity, keep high quality of APC with perfect conjugation consistency. For research or further manufacturing use only.
<u>Reconstitution</u>	Reconstitute whole bottle of Lyo SMCC-APC (2 mg) with your conjugate buffer to adjust the concentration for further use.
<u>Important Notes</u>	<u>Weight:</u> One bottle of Instant Lyo SMCC-APC contains 2 mg of APC with sugar as additive. It is not accurate to measure activated APC directly by weight. <u>Buffer:</u> The buffer containing primary amines, reducing agents or sodium azide should be avoided. Buffer such as phosphate or carbonate/bicarbonate are most often used. PBS with 100 mM phosphate is particularly well suited.

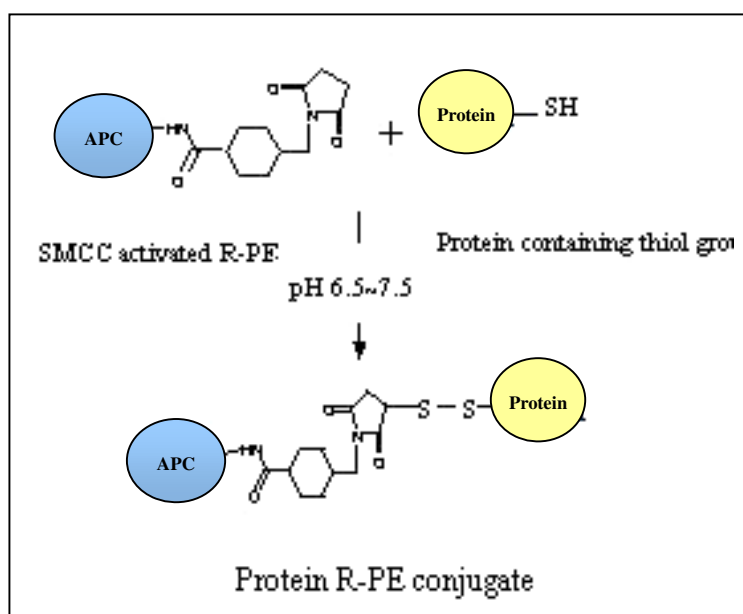
Include 2-5 mM EDTA in the buffer to chelate divalent metal in the solution, which helps to prevent oxidation of sulfhydryls (i.e., formation of disulfide bonds).

Usage: No preservative is added in the product. Once reconstitute it, please use it as soon as possible. It is not suitable to store after reconstitution.

Procedure for Coupling SMCC-APC with Thiol Group

Reaction scheme of SMCC-APC react with thiol group containing protein.

The maleimides on SMCC-APC will react with sulfhydryl group on protein under mild conditions of temperature and pH to form APC-protein conjugate.



1. Prepare your protein containing thiol group to the concentration at least 1-5 mg/ml.
2. Reconstitute instant Lyo SMCC-APC with your conjugation buffer to 5-10 mg/ml, mix well.
3. Mix your protein containing thiol group with reconstituted instant Lyo SMCC-APC solution.
4. Incubate at room temperature for 2 hours.
5. Any remaining free sulfhydryl groups could be quenched by adding NEM (N-ethylmaleimide).

Notes

1. To introduce the sulfhydryls in one protein, you may either use DTT (Dithiothreitol) reduction or if this is not feasible, you may introduce free thiol groups by either Traut's reagent (2-Iminothiolane) or SATA (N-Succinimidyl S-acetylthioacetate).
2. Keep your protein about 1.5~3 thiols/protein for 100 KD is recommended.