46117 Landing Parkway, Fremont, CA 94538 U.S.A.
Tel: 1-510-265-1027; Fax: 1-510-265-1352

www.biotium.com
Last updated on: July 10, 2005

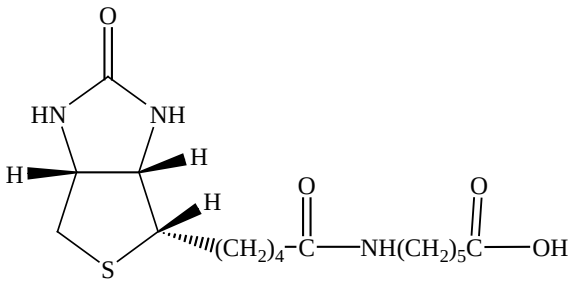
PRODUCT AND SAFETY DATA SHEET

PRODUCT NAME: **Biotin-X, free acid** (6-((biotinoyl)amino)hexanoic acid)

CATALOG #: **90053**

MOLECULAR INFORMATION: $C_{16}H_{27}N_3O_4S$

MW: 357.47



PROPERTIES:

Color & Form	White solid
Purity	≥ 99% by TLC
Solubility	Soluble in DMSO and moderately soluble in DMF

STORAGE AND HANDLING: Store at 4° C.

APPLICATION: Biotin-X free acid can be easily converted to the mixed anhydride form, which is more reactive than the succinimidyl ester and thus can be used to react with aromatic amines or sterically hindered amines.

Procedure for converting biotin free acid, biotin-X free acid or biotin-XX free acid to their respective mixed anhydride forms for reacting with an aromatic amine

1) Dissolve or suspend 100 mg (0.21 mmole) biotin-XX free acid (or 51 mg biotin free acid, or 75 mg biotin-X free acid) in 5 mL anhydrous DMF (available from Aldrich) in a small round bottom flask. Add a small magnetic bar to the container.

2) Add 30 uL triethylamine. Close the flask with a rubber septum and stir the mixture in a 0 to -10 °C bath for 15 min. (Note: the mixture may or may not become a homogeneous solution).
3) Use a microsyringe to add 28 uL of isobutyl chloroformate (available from Aldrich) in a drop wise fashion. Continue to stir the mixture cooled in the cold bath for ~30 min.
4) The mixed unhydride formed from step 3) is now ready to react with an aromatic amine compound. The amine compound should be dissolved in anhydrous DMF and added drop wise to the above solution at 0-4 °C. (The

46117 Landing Parkway, Fremont, CA 94538 U.S.A.
Tel: 1-510-265-1027; Fax: 1-510-265-1352

amount of aromatic amine compound should be 0.5 to 1 equivalent relative to the amount of biotin).

5) After the addition of the amine, continue to stir the reaction mixture at 0-4 oC for 1 hour and then at room temperature for at least 8 hours.
6) Work up the reaction and isolate your compound using a suitable method.

Ref.: 1) *Anal Chem* **67**, 1014 (1995)

TOXICITY: Unknown.

FIRST AID:	Potentially harmful. Avoid prolonged or repeated exposure. Avoid getting in eyes, on skin, or on clothing. Wash thoroughly after handling. If eye or skin contact occurs, wash affected areas with plenty of water for 15 minutes and seek medical advice. In case of inhaling or swallowing, move individual to fresh air and seek medical advice immediately.