



# e-Network Forum

## CALIFORNIA BLOOD BANK SOCIETY

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### ***Alternatives to commercial ficin for treating red cells for allogeneic adsorption***

**A California blood banker** reports that his immunohematology laboratory is having difficulty obtaining **reagent-grade ficin** from their commercial supplier, and wonders if any laboratories are preparing ficin reagent 'from scratch'? The inquiring Californian's laboratory uses ficin reagent to treat red cells used in an ALLOgeneic absorption method, but with the current unavailability of commercial ficin (or an acceptable 'home brew'), he wants to know what reagent(s) would best substitute for ficin in their ALLOgeneic absorptions. He points out that they treat moderate volumes of red cells (5-10 mL) when doing the ALLOgeneic absorption technique. He reports that his laboratory performs ALLOabsorptions infrequently, and that they use a commercial kit for AUTOabsorption treatments (WARM, Immucor; Ref. [Storry, JR](#), Immunohematology 2000 [PDF]). He wonders if they should just use the AUTOabsorption kit for their ALLOabsorptions, and forget about ficin altogether when doing absorptions.

Before sharing this question with the full e-Network, **an expert** who helped develop the [ZZAP reagent](#) was consulted, and he had the following comments. "There are advantages and disadvantages to using individual proteolytic enzymes to treat RBC for allogeneic adsorption. However, **ficin and papain work about the same**. Recently there has been increased interest to use **ZZAP** (or W.A.R.M.) for treating allogeneic cells for adsorption (Transfusion 1999;39:6-10). When using ZZAP/WARM, one must be aware of the various RBC antigen systems that are denatured. These will be different antigens than when using ficin or papain alone. A good reference for the different antigens that are denatured is given in the recent ASCP Tech Sample Immunohematology No. I-3 2002. As with ficin, you will need some method to test for the presence of Duffy and Ss and, in addition, for Kell. Therefore, I see no reason not to use ZZAP or W.A.R.M. as long as one is aware of these caveats. However, interested individuals can find formulas in the AABB Technical Manual for the preparation of papain that could replace the ficin quite nicely if they want."

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The following responses have been received.

**ADDENDA** Sept. 6, 2002

1. **An immunohematologist in Michigan** reports that he was told by the customer service department of ICN Pharmaceuticals that they carry ficin, although it is not listed in their catalogue, or in catalogues of any other of the manufacturers that used to carry it. The Michigan immunohematologist suspects papain may be equally difficult to locate, and requires activation with L-cysteine HCl. He concludes by providing interested readers with the following ordering information:

**Ficin** - Catalog #198761  
5 gm - \$19.45  
25 gm - \$71.30  
100 gm - \$213.85

**ICN Contact Numbers:**

Fax: 800.334.6999  
Tel: 800.854.0530

Please submit comments to the [e-Network Forum](#).



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CBBS e-Network Forum Editor & Moderator

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**Addenda:** Sept. 6, 2002

Link Removed: Sept. 4, 2005

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