

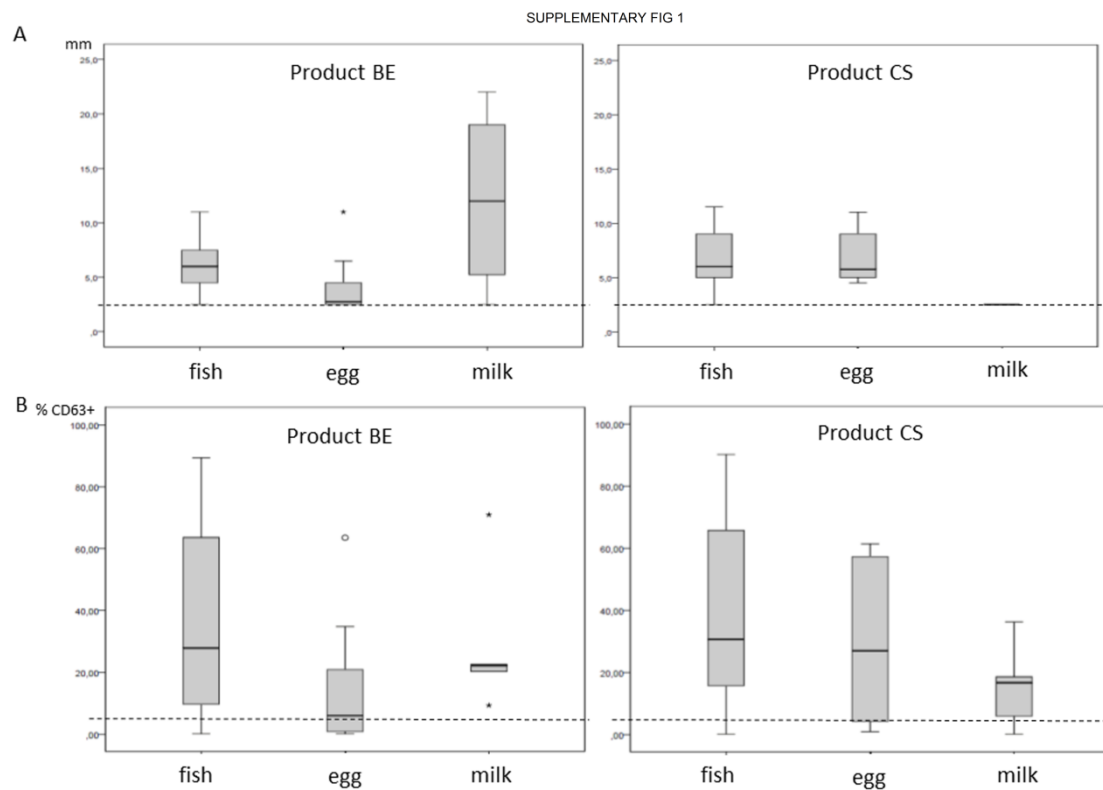
## Supplementary material

**Supplementary Table 1.** Characteristics of age, total IgE and relevant specific IgE of patients included.

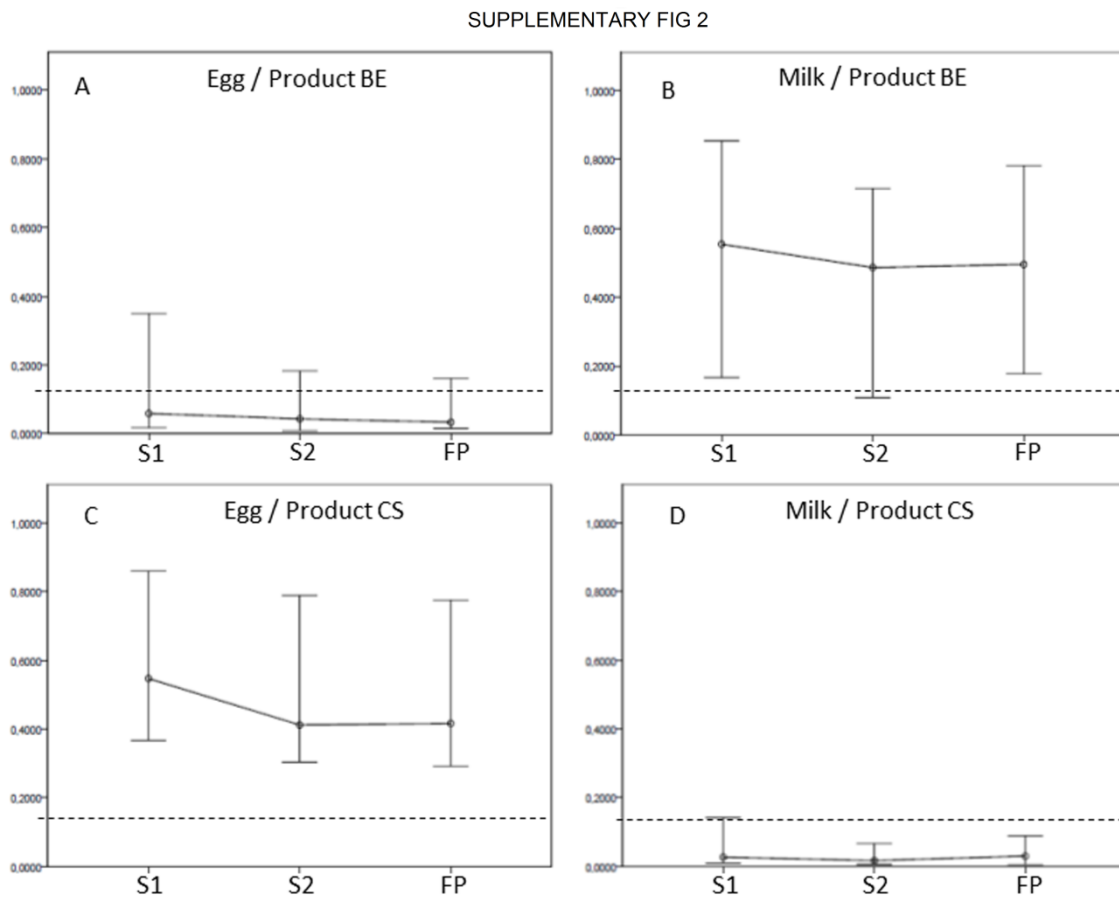
	<b>BAT and PPT population</b>	<b>ELISA population</b>
<b>Fish (n)</b>	14	25
Age (years)	17.5 (14.0-35.0)	17 (11.5-31.5)
IgE hake (kU/L)	6.95 (2.3-14.7)	4.0 (1.54-14.3)
IgE total	604.5 (211.3-1669.3)	575.0 (239.5-1267.0)
<b>Egg (n)</b>	10	24
Age (years; IR)	13.8 (15.0-19.5)	13.5 (8.25-15.75)
IgE white egg	6.14 (1.76-24.5)	8.8 (2.2-77.7)
IgE total	912.5 (701.8-3194.0)	917.5 (714.0-3546.5)
<b>Milk (n)</b>	5	17
Age (years; IR)	16.5 (19.0-20.0)	7.0 (3.0-16.5)
IgE milk	20.95 (10.14-46.88)	38.8 (17.2-100.0)
IgE total	391.0 (80.6-985.5)	325.0 (129.7-804.0)

Data are express as median with interquartile range in brackets. Considering the whole group, the 50% were male and 50% female.

**Supplementary Figure 1. A** Box and whisker plot showing prick test results. Y axis shows the diameter of the wheal in mm obtained from the fish, egg and milk allergic patients studied. The bars, box and whiskers indicate the medians, 25<sup>th</sup> and 75<sup>th</sup> percentiles and the ranges, respectively. Product BE (baby eel surimi). Product CS (crab stick surimi). Dotted line: cut-off  $\geq 3$  mm. **B** basophil activation test results. Y axis shows the percentage of activated basophils (% CD63 +) obtained from the fish, egg and milk allergic patients studied. The bars, box and whiskers indicate the medians, 25<sup>th</sup> and 75<sup>th</sup> percentiles and the ranges, respectively. Product BE (baby eel surimi). Product CS (crab stick surimi). Dotted line: cut off  $\geq 5\%$ .



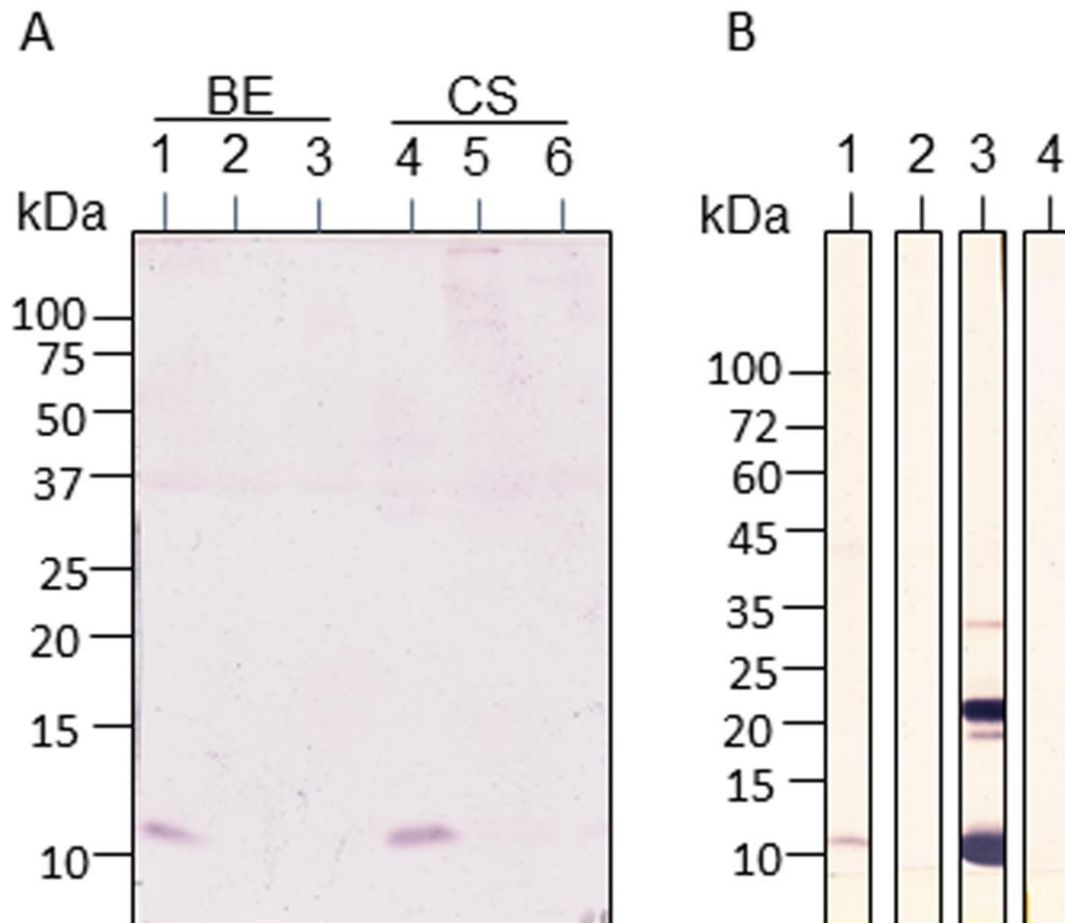
**Supplementary Figure 2.** Variation of IgE recognition during processing tested by ELISA.



Y axis shows absorbance units for egg and milk allergic patients tested with different extracts. Median and error bars (95% CI) are shown. S1: step 1, before surimi gelation; S2: step 2, after surimi gelation, FP: final product. **A**, egg allergic sera tested with product BE. **B**, milk allergic sera tested with product BE. **C**, egg allergic sera tested with product CS. **D**, milk allergic sera tested with product CS. Dotted line: cut-off  $\geq$  0.14 Absorbance Units.

**Supplementary Figure 3.** Analysis of PBS extracts of product BE and CS and their steps of processing (20  $\mu$ g) by western blot.

SUPPLEMENTARY FIGURE 3



**A**, western blotting with fish allergic patient serum recognizing  $\beta$ -parvalbumin, lane 1: step 1, extract before surimi gelation; lane 2: step 2, extract after surimi gelation, lane 3: final product, extract from product BE; lane 4: step 1 from product CS; lane 5: step 2 from product CS; lane 6: final product CS. **B**, western blotting inhibition. Lane 1: step 1 extract, before surimi gelation of product BE no inhibited; Lane 2: step 1 extract of product BE inhibited with 10  $\mu$ g of mackerel  $\beta$ -parvalbumin; lane 3: 10  $\mu$ g of mackerel  $\beta$ -parvalbumin no inhibited; 4: 10  $\mu$ g of mackerel  $\beta$ -parvalbumin inhibited itself.