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- Each lot is pre-tested prior to release for:
  - Lymphocyte recovery
  - Lymphocyte viability
  - Sterility
- Consistent density for reproducible results
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- Immediate availability

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Richard D. Eisenberg, Marketing Manager

5516 Nicholson Lane, Kensington, Maryland 20795
Telephone: (301) 881-5600

Ficoll® (Pharmacia, Uppsala, Sweden)
Hypaque® (Winthrop Laboratories, New York, New York)
The properties of the materials Calbiochem offers for radioimmunoassay of human TSH (Thyrotropin Stimulating Hormone) are described in the graph below. For new initiates, we summarize as follows:

SENSITIVITY: 1 microunit of TSH gives a 20% displacement of labeled TSH.
SPECIFICITY: Cross reaction of the antiserum with related pituitary peptide hormones is minor and due to contamination in the peptide isolates, not to the antiserum. FSH, Sample II crossreacts 5%; FSH, Sample I, but 1%.
COST: Materials for this test, including second antibody, cost less than 10¢/tube.
PACKAGING: 10,000 tubes in a set.
TRACER: We tell you how to iodinate your own. This does take half an hour but you can cut reagent costs about 90% and your tracer is always fresh. Not bad for half an hour of work.
PROTOCOL: Contact Lou Dilts and ask for document 3052B. Lou will send you our idea of a protocol for double antibody radioimmunoassay of TSH. Nothing fancy, just good old fashioned pipetting, centrifuging and counting in that approximate order.

Lou Dilts, c/o Calbiochem, Box 12087, San Diego, CA 92112.

ANTISERUM TO HUMAN TSH
Dose Response Curve and Cross-Reactions

Conditions:
Antiserum. Prepared in rabbits. Cat. No. 989007, Lot No. 428806
Final Dilution: 1:100,000 during first incubation
Dilution: 1 unit of HCG added to each tube
Incubation Volume: 0.8 ml for first incubation; 1.0 ml for second
Labeled Antigen: 125I labeled human TSH prepared from Cat. No. 989006
Maximal Binding: 20% of the added 125I-TSH

Nanograms/Tube
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Phadebas

RAST
Sensitive radioimmunoassays for determination of total immunoglobulin E (IgE) and specific IgE antibody to common allergens are the first practical applications of research on the immunologic mechanisms underlying hypersensitivity reactions. Serum concentrations of specific IgE antibodies to many different allergens can be determined routinely by Phadebas RAST.

Phadebas RAST measures the amount of IgE antibody in serum that reacts with a specific allergen, thus providing an objective method for identifying offending allergens in a wide variety of allergic disorders. Just draw a blood sample by venipuncture. Serum or plasma samples are preferable. (One ml of serum or plasma is enough for testing 16 allergens.) The sample can then be sent to the Pharmacia Reference Laboratory for testing.

References

Valuable adjunct for diagnosis of food allergy
Because Phadebas RAST offers such safety and convenience, it is a useful first complement to skin and provocation testing in diagnosing IgE-mediated reactions to food. It is especially valuable when those procedures are difficult to perform and evaluate or put the patient at risk.

Positive RAST to at least one food allergen was found in 75 percent of 127 pediatric patients with a history of hypersensitivity reaction. IgE antibodies were found by RAST in 83 percent of the intolerances reported by eczema patients in the group.

In another study involving 34 children with atopic eczema, both clinical egg sensitivity and positive prick test for egg white correlated well with high RAST levels. "The RAST for egg white correlated with clinical egg sensitivity to a much higher degree than did positive prick skin tests to eggs. It provided a more conclusive confirmation for history of egg-white sensitivity, especially in patients with extensive skin involvement." The authors conclude that, "Eczematous children with an RAST level to egg-white less than 25 percent, and without any symptoms induced by egg-white ingestion, probably do not need egg-white elimination diet whether the prick skin tests to eggs are positive or not. In children with multiple food sensitivities, the egg-white RAST may be a useful guide to regulation of egg-free diets."

Tests specific reaginic activity...without putting the patient to the test
Safety is an outstanding feature of Phadebas RAST since it avoids the dangers of passive transfer to the patient and eliminates the risk of hypersensitivity reactions possible with in-vivo tests. RAST is less traumatic and often more suitable for use in children, in severely ill and apprehensive patients, and even in those with generalized skin disorders.

Extensive panel of allergens available
Phadebas RAST Allergen Discs are available for testing foods, molds, animal danders, house dust and mites as well as most grasses, weeds, and trees.
...The most advanced diagnostic aid in clinical allergy

Excellent correlation with other methods

Summary of Findings from Clinical Studies in Which Allergic States Were Determined by RAST and by Nasal Provocation Testing:

<table>
<thead>
<tr>
<th>Type of Provocation Test Employed</th>
<th>Allergens Tested</th>
<th>Percent Agreement Between Tests</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronchial &amp; Rhinconjunctival</td>
<td>Timothy, Horse Danders &amp; Shellfish Extract</td>
<td>96</td>
<td>4</td>
</tr>
<tr>
<td>Bronchial, Rhinconjunctival &amp; Test Meal</td>
<td>Cod Extract, House Dust Extract, Birch &amp; Timothy Pollen &amp; Horse Danders</td>
<td>77*</td>
<td>5</td>
</tr>
<tr>
<td>Bronchial &amp; Rhinconjunctival</td>
<td>Dog, Cat, Horse &amp; Cow Danders, Birch, Timothy, Ox-eye Daisy &amp; Dandelion Pollen &amp; House Dust Ext.</td>
<td>74</td>
<td>6</td>
</tr>
<tr>
<td>Bronchial</td>
<td>Mixed Dog Epithelium Ext.</td>
<td>97</td>
<td>7</td>
</tr>
<tr>
<td>Subcutaneous</td>
<td>Penicillin</td>
<td>100*</td>
<td>8</td>
</tr>
<tr>
<td>Nasal</td>
<td>Mixed Grass Pollen &amp; Mite</td>
<td>83</td>
<td>9</td>
</tr>
</tbody>
</table>

a) Positive allergies based on RAST scores of 2 or more and negative allergies based on RAST score of less than 2.
b) Performed in patients with a negative RAST and negative scratch test.

Phadebas RAST

Reliable...reproducible...sensitive

"Used with knowledge and interpreted with criticism, RAST has proved to be a very valuable tool both in experimental and clinical allergy."14

- RAST obviates possible systemic reactions caused by potent allergens in skin tests.
- Helps to identify false positive skin reactions produced by irritant or histamine-releasing allergens.
- Allows testing in patients with severe skin disease and in patients with hypo- or hyper-reactive skin.
- Provides a more precise identification of the causative allergen when combined with case histories and skin testing.
- Permits changes in reaginic levels to be followed during the season and during therapy.
- Sera can be stored for later comparative evaluation.
- Removes the risk of hepatitis cross-infection inherent in the P-K test.
- Spares transfer patients the trauma of another battery of skin tests.

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Your Own RIA Laboratory

Any facility can be set up to perform Phadebas RAST with Pharmacia’s RIA-pac™ instrumentation. This complete system – available for about $10,000 – includes a Fluid Aspirator for handling radioactive fluids, an automatic Pipet designed to pick up and deliver micro-quantities of liquid, an automatic Gamma Counter, plus all reagents and necessary labware. Additionally, a Pharmacia representative will train your personnel in the operation of this equipment. Compact and rugged, RIA-pac components offer simplicity, speed and convenience that enable one person to do up to 300 tests per day.

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800 Centennial Avenue
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Gentlemen:

☐ Yes, I am interested in learning more about setting up a system for doing Phadebas RAST determinations in my laboratory. Please have a Pharmacia representative call on me to discuss the details.

☐ Please send instructions for utilizing the Pharmacia Reference Laboratory.

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Address __________________________
City __________________ State ______ Zip ______

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0.5 ml Rabbit IgG
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(Specifically degrades Single-stranded Nucleic Acids)

N 5255 — from Aspergillus oryzae
Solution in 50% Glycerol containing NaCl, ZnSO₄ and Sodium Acetate, pH 4.6.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,000 units</td>
<td>$12.00</td>
</tr>
<tr>
<td>50,000 units</td>
<td>$39.00</td>
</tr>
<tr>
<td>100,000 units</td>
<td>$65.00</td>
</tr>
<tr>
<td>1,000,000 units</td>
<td>$500.00</td>
</tr>
</tbody>
</table>

**ACTIVITY:** 100,000–200,000 units/mg Protein (Lowry).

**UNIT DEFINITION:** One unit will cause 1.0 µg of Nucleic Acid to become Perchloric Acid Soluble per minute at pH 4.6 at 37°C.
(Do not confuse with 30 minute assay sometimes used by others.)

**NATIVE DNA ACTIVITY:** < 0.1%; substantially free of DNase 1.

**RNase ACTIVITY:** Approx. 250 Kunitz units per mg Protein.


**SIGMA also offers —**

**RIBONUCLEASE S**
Protease-modified RNase-A

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 mg</td>
<td>$7.50</td>
</tr>
<tr>
<td>25 mg</td>
<td>$27.00</td>
</tr>
<tr>
<td>100 mg</td>
<td>$75.00</td>
</tr>
<tr>
<td>1 g</td>
<td>$490.00</td>
</tr>
</tbody>
</table>

**RIBONUCLEASE S-PEPTIDE**
From RNase-S
Believed to be a 20-residue peptide. When mixed with “S-Protein”, full enzymic activity is restored.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 mg</td>
<td>$24.00</td>
</tr>
<tr>
<td>10 mg</td>
<td>$40.00</td>
</tr>
<tr>
<td>25 mg</td>
<td>$80.00</td>
</tr>
<tr>
<td>100 mg</td>
<td>$250.00</td>
</tr>
</tbody>
</table>

**RIBONUCLEASE S-PROTEIN**
A protein component obtained from RNase S. When mixed with “S-Peptide”, full enzymic activity is restored.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 mg</td>
<td>$16.25</td>
</tr>
<tr>
<td>10 mg</td>
<td>$27.00</td>
</tr>
<tr>
<td>25 mg</td>
<td>$54.00</td>
</tr>
<tr>
<td>100 mg</td>
<td>$150.00</td>
</tr>
<tr>
<td>250 mg</td>
<td>$300.00</td>
</tr>
</tbody>
</table>


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