



MESOMARK™

- To diagnose and track mesothelioma

Biology of SMRP

(Soluble Mesothelin Related Peptides)

Mesothelin is a 40 kDa cell surface glycoprotein. It is synthesized as a precursor 69 kDa protein and forms 2 proteins, the membrane-bound mesothelin and a soluble protein megakaryocyte potentiating factor (MPF).

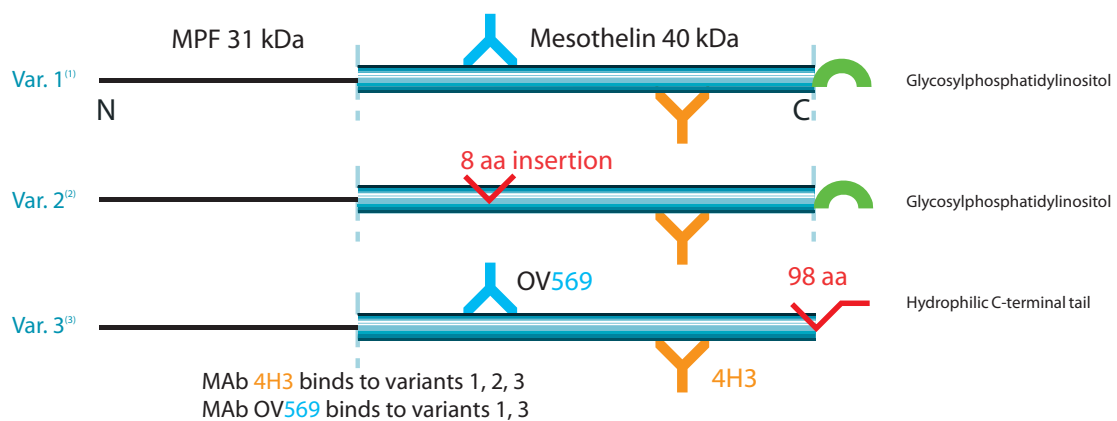
A monoclonal antibody, OV569, has been identified, that recognises mesothelin bound to the surface of mesothelioma cells.

This antibody also recognizes other soluble molecules that are related to the mesothelin family of proteins.

Mesothelin Family Proteins

- C-terminal fragments (purple) of Mesothelin Related Peptide (SMRP) are⁽⁶⁾:
 - ✓ Found in biological fluids and tissue specimen
 - ✓ Soluble (---)
 - ✓ Tumor markers

- These are the 3 variants of Mesothelin



- MESOMARK™ using OV569 and 4H3 monoclonal antibodies allows serum measurement of at least soluble variant 1 and 3.

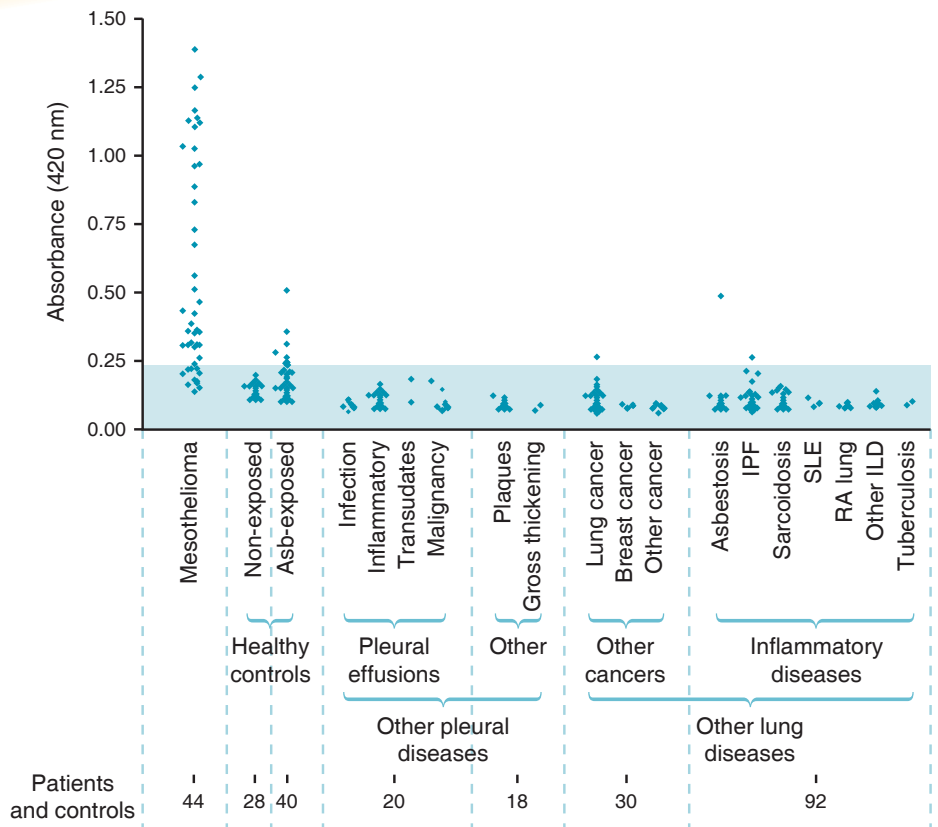
MESOMARK™ is an ELISA test for the measurement of Soluble Mesothelin Related Peptides levels in serum

Clinical interest of SMRP

Diagnosis of mesothelioma

Method⁽⁴⁾

Serum SMRP levels were determined using monoclonal antibodies (OV569 and 4H3) in ELISA



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Findings

SMRP was significantly elevated in the serum of 37 of the 44 patients with proven mesothelioma compared to controls ($p < 0.001$).

SMRP had :

- Sensitivity of 84% (95% CI, 73-93) for mesothelioma
- Specificity of 100% (95% CI, 91-100) compared to other pleural diseases
- Specificity of 95.4% (95% CI, 84-100) compared to other lung tumors
- Specificity of 82.5% (95% CI, 70-93) compared to other asbestos-exposed subjects

Determination of SMRP concentrations in serum may be a useful tool for the diagnosis of mesothelioma⁽⁴⁾

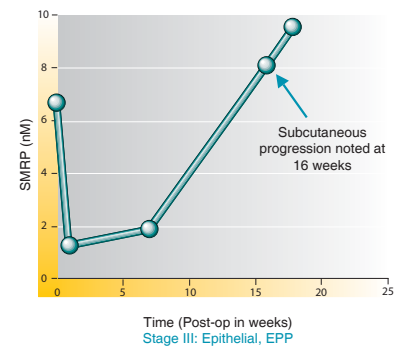
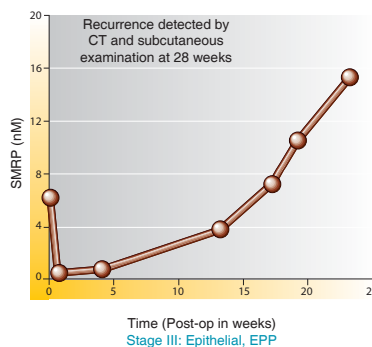
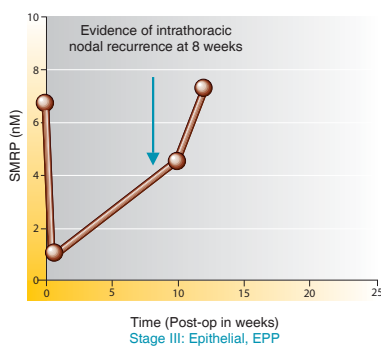
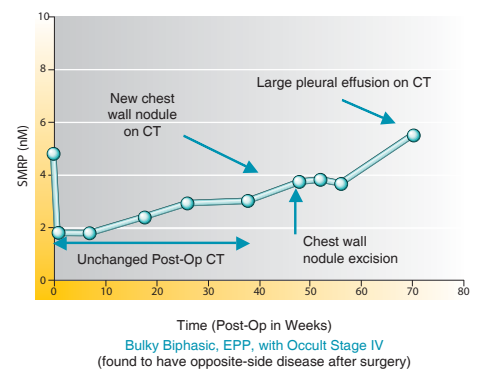
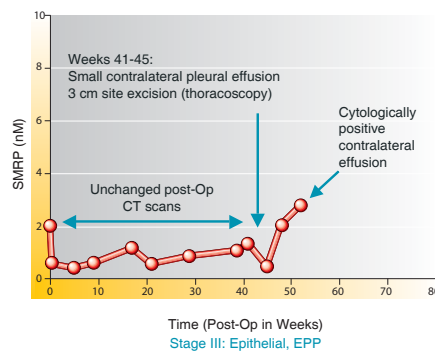
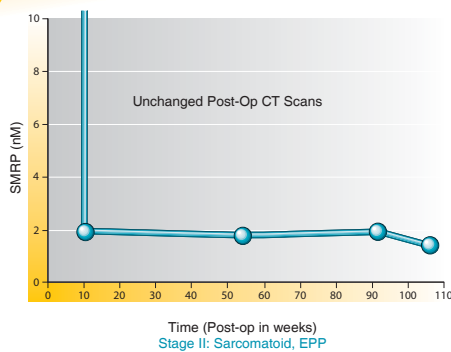
Monitoring

Longitudinal measurement of SMRP⁽⁵⁾

Patient population

- Serum samples were collected from mesothelioma patients
- All had cytoreduction either by extrapleural pneumonectomy or pleurectomy decortication
- Patients received the same adjuvant therapy
- Patients had serial blood draws preoperatively and every 1-2 weeks as long as they were on trial
- Computerized Tomograms (CT) of the chest and upper abdomen were performed to document radiologic recurrence of disease
- Sera were retrospectively evaluated for SMRP levels

6 case samples after surgery



These data suggest that the measurement of SMRP in the sera of mesothelioma patients may be of value in managing this disease

For many years, CISBIO has been committed to working closely with medical teams to develop and evaluate new tumor markers.

Today CISBIO is ready to complete its large range of tumor markers.

Specific for mesothelioma and marker of disease progression, MESOMARK™ is a useful tool for diagnosis and monitoring disease, its determination in serum is easy to handle.

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