Investors’ & Analysts’ Meeting in Austin

Thursday 30th and Friday 31st
May 2013
### Thursday, May 30th, 2013 – San Marcos (TX)

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
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<tbody>
<tr>
<td>8:00</td>
<td>Hotel pick up in Austin</td>
</tr>
<tr>
<td>8:45</td>
<td>Reception of participants at San Marcos Laboratory</td>
</tr>
<tr>
<td>9:00</td>
<td>Welcome and Introduction: R &amp; D &amp; i</td>
</tr>
<tr>
<td>9:30</td>
<td><strong>Grifols: Innovative Research &amp; Development</strong></td>
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<tr>
<td></td>
<td>✓ Main therapy lines and research projects. Including neurology, autoimmune diseases, liver, pulmonary …</td>
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<tr>
<td>10:45</td>
<td>Coffee break</td>
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<tr>
<td>11:15</td>
<td><strong>Grifols: Innovative Research &amp; Development (cont’ed)</strong></td>
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<tr>
<td>12:30</td>
<td>Lunch</td>
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<tr>
<td>14:00</td>
<td>Plasma procurement: safety and logistics</td>
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<tr>
<td>14:30</td>
<td>Site visit: San Marcos Laboratory</td>
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<tr>
<td>15:30</td>
<td>Q&amp;A</td>
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<td>Transfer to Austin</td>
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<tr>
<td>18:30</td>
<td>Reception &amp; Informal dinner</td>
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<td>Time</td>
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<tr>
<td>8:00</td>
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<td>8:45</td>
<td>Reception of participants at San Marcos Laboratory</td>
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<tr>
<td>9:00</td>
<td><strong>Sales &amp; Marketing</strong></td>
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<td>▶ Growth Opportunities</td>
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<td>9:30</td>
<td>▶ North American Markets</td>
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<td>Coffee break</td>
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<td>10:30</td>
<td><strong>Manufacturing update</strong></td>
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<td>11:00</td>
<td><strong>Financials</strong></td>
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<td>11:45</td>
<td><strong>Wrap up</strong></td>
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<tr>
<td>12:00</td>
<td>Transfer to Austin / airport</td>
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This document contains forward-looking information and statements about GRIFOLS based on current assumptions and forecast made by GRIFOLS management, including proforma figures, estimates and their underlying assumptions, statements regarding plans, objectives and expectations with respect to capital expenditures, synergies, products and services, and statements regarding future performance. Forward-looking statements are statements that are not historical facts and are generally identified by the words “expected”, “potential”, “estimates” and similar expressions.

Although GRIFOLS believes that the expectations reflected in such forward-looking statements are reasonable, various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the Company and the estimates given here. These factors include those discussed in our public reports filed with the Comisión Nacional del Mercado de Valores and the Securities and Exchange Commission, which are accessible to the public. The Company assumes no liability whatsoever to update these forward-looking statements or conform them to future events or developments. Forward-looking statements are not guarantees of future performance. They have not been reviewed by the auditors of GRIFOLS.

Analysts and Investors meeting. Austin. May 30-31, 2013
Welcome and Introduction: R&D&i
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| **ALZHEIMER** | - Albumin Binding capacity study  
- "AMBAR" Phase IIb clinical trial  
- ARACLON vaccine Phase I clinical trial  
- ARACLON test (AB 40/42) clinical study  
- Plastic bag for Albumin & IVIG  
- Hemoperesis centrifuge | | |
| **L. GEHRIG DISEASE (ALS)** | - Compassionate use  
- POC plasma exchange with albumin | | |
| **POSTPOLIO SYNDROME** | - IVIG efficacy phase II – III clinical trial | | |
| **MYASTENIA GRAVIS** | - IVIG efficacy phase III clinical trial | | |
| **GUILLAIN BARRE** | - Postauthorization efficacy study | | |
| **PARKINSON** | - S14 preclinical study | | |
### BIOSCIENCE DIAGNOSTIC HOSPITAL ENGINEERING

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<td>- Adoption of Prolastin® in BCN</td>
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| **FACTOR VIII** | - Higher potency (2000 u/vial)  
- New FVIII high concentration & optimized performance  
- Haemophilia A inhibitors  
- Koate® yield increase | | | |
| **PROTHROMBIN COMPLEX** | - Profilnine® nanofiltration (NF)  
- 4-Factor PTC for Warfarin reversal  
- Profilnine® to reverse the effects of anticoagulant new drugs | | | |
| **FIBRINOGEN** | - Fibrinogen primary deficiency  
- Fibrinogen secondary deficiencies | | | |
| **ANTITHROMBIN III** | - AT - III primary deficiency  
- AT - III secondary deficiencies | | | |
| **VON WILLEBRAND** | - Von Willebrand disease | | | |
| **TESTING** | - New coagulation instrument  
- New reagents | | | |
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| pd PLASMIN           | - PAO Plasmin phase II clinical trial | 0          | 0        | 0           |
| r PLASMIN            | - Recombinant plasmin development | 0          | 0        | 0           |</p>
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                                  - Stem Cell studies |           |           |             |
<p>| ALBUMIN                        | - Stem Cell culture media      |           |           |             |
| ONCOYTIC VIRUSES               | - Preclinical development      |           |           |             |
| CELL NANOTHERAPY               | - Basic Research               |           |           |             |</p>
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Grifols: Innovative Research & Development
Albutein® & Cirrhosis
Human Serum Albumin

Most abundant plasma protein: 50-60% (30-50 g/L)

Synthesized almost exclusively in the liver: 10-15 g/day (10% of total protein synthesis)

Modern use of albumin established during 2nd World War: plasma substitute

First documented clinical uses occurred in 1941 (including Pearl Harbor bombing victims)

First reported administration to patients with cirrhosis: Janeway et al. J Clin Invest 1944; 23:465-491
“...It is well known that the oxidation or binding of HSA to endogenous ligands produced or accumulated under pathological conditions such as sepsis, diabetes, chronic renal failure, and cancer is associated with significant structural and functional modifications of the molecule of albumin that markedly affect its biological activity.

The article by Jalan et al. in this issue of Hepatology adds liver cirrhosis to this list of diseases with profound structural and functional modifications of HSA.”

Alterations in the functional capacity of albumin in patients with decompensated cirrhosis is associated with increased mortality

“In conclusion, the results of this study clearly indicate that the functional ability of albumin in cirrhosis is severely compromised, which further worsens in liver failure. In addition to these functional disturbances, the albumin concentration was markedly reduced, which most likely further compounds the overall functional capacity of albumin. This loss of albumin function…was associated with poor survival…

Furthermore these findings argue for further studies of albumin biology in cirrhosis, giving consideration to the use of albumin infusion not for fluid replacement, but as an agent to increase detoxification capacity.”

Cirrhosis

Most advanced phase of the majority of chronic liver diseases. Liver tissue is replaced by fibrosis (mostly collagen, leading to chronic liver inflammation), scar tissue and regenerative nodules. The liver consistency increases, raising the portal vein blood pressure (portal hypertension).

Hardly reversible, may lead to severe complications (liquid retention –edema, ascitis–, renal dysfunction, bacterial infections, encephalopathy, cancer…) which may require liver transplant.

Albumin (and other proteins) synthesis, detoxification capacity, metabolism and other physiological liver functions are impaired.
Cirrhosis: etiology and prevalence

Main causes are chronic alcoholism, chronic viral hepatitis (C & B types), fatty liver disease, metabolic syndrome (obesity, diabetes, hypercholesterolemia)…

The worldwide prevalence is not well established but chronic liver disease and cirrhosis result in about 35,000 deaths each year in the United States.

Cirrhosis is the ninth leading cause of death in the United States and is responsible for 1.2% of all US deaths. Many patients die from the disease in their fifth or sixth decade of life. Approximately from 1/3 to 2/3 of the patients with established cirrhosis will die within 10 years of diagnosis.

The current prevalence is already high but the link with alcohol consumption and the metabolic syndrome suggests this problem may increase in the future.

Cirrhosis: complications

**Ascites**
Accumulation of fluid within the peritoneal cavity. The kidneys cannot eliminate the water and the salt present in the diet. The patients must be evaluated for liver transplant.

Most commonly occurring complication: 50-60% of patients within 10 years

Upon appearance 30-50% of patients will die within 1 year and 60-80% within 5 years

**Hepatorenal Syndrome**
Functional renal failure without renal pathology occurring in about 10% of patients with cirrhosis (>50% mortality)
Spontaneous bacterial peritonitis

Spontaneous infection of the ascitic fluid

SBP can occur in up to 30% of individuals and can have a 25% in-hospital mortality rate.
### Use of Albumin in Cirrhosis

<table>
<thead>
<tr>
<th>Paracentesis-induced circulatory dysfunction</th>
<th>Spontaneous bacterial peritonitis</th>
<th>Hepatorenal syndrome</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ 6-8 g albumin per L of ascitic fluid for paracentesis &gt;5-6 L</td>
<td>▪ 1.5 g/kg bw on day 1 and 1 g/kg bw on day 3 (max. 150 and 100 g)</td>
<td>▪ Loading dose: 1 g/kg bw followed by 20-40 g</td>
</tr>
<tr>
<td>▪ Superior to saline, dextran-70 and polygeline</td>
<td>▪ Superior to antibiotics and HES</td>
<td>▪ In combination with terlipressin: Superior to Vasopressin analogues</td>
</tr>
</tbody>
</table>
Clinical investigation evaluating the effects of the long term administration of albumin 20% on cardiocirculatory and renal function and hepatic haemodynamics in patients with advanced cirrhosis and ascites

Goals: Increased survival rate, linked to slower disease progress and more opportunities to reach liver transplant

Principal Investigator: Vicente Arroyo, MD

Phase IV : Prospective, open, non-controlled, multi-centric pilot study

Study sites:  
H. Clínica, Barcelona
H. Santa Creu i Sant Pau, Barcelona
H. del Mar, Barcelona
H. Germans Trias i Pujol, Badalona
H. Ramón y Cajal, Madrid
H. Gregorio Marañón, Madrid

Enrolment finished
32 patients recruited:
- 29 finished
- 3 ongoing
Effects of plasma exchange on the functional capacity of serum albumin, circulatory dysfunction, renal and cerebral function, in cirrhotic patients with “acute-on-chronic liver failure”

Principal Investigator: Vicente Arroyo, MD

Phase IV Prospective, open, non-controlled, single-center pilot study

Study site: H. Clinic, Barcelona

Enrolment
12 patients recruited:
- 8 completed

Intermediate data from the 8 patients recruited suggest potential survival improvement versus historical controls
Different perception of Albumin for cirrhosis in Europe versus USA

Albumin effectiveness is well accepted in Europe, but in USA Albumin is mostly considered just as a plasma volume replacement solution.

However, Albumin is licensed in USA for Cirrhosis related conditions (e.g.: Prevention of central volume depletion after paracentesis due to cirrhotic ascites, Acute liver failure, ...)

The goal of Grifols research programs in relation with liver disease is to generate new data to emphasize the effectiveness of Albumin.
AMBAR Project
(Alzheimer’s Management by Albumin Replacement)
PlasmaCSF

Aβ 40, 42
Definitions

Therapeutic Apheresis (TAPh):

- Removal of 2.5-3 L of plasma from a patient and replacement with the same volume of FFP and/or Albumin. Separation of plasma from blood is done by centrifugation or filtration.

Hemopheresis (HPh):

- Removal of 650-800 mL of plasma from a patient with replacement of the Albumin or Immunoglobulin contained in the extracted plasma. Red cells are reinjected to the patient. Once completed, a volume of Albumin or IVIG containing the required grams is injected. Separation of plasma from blood is done by centrifugation.
### Grifols AMBAR Project Overview

<table>
<thead>
<tr>
<th>Year</th>
<th>Prep</th>
<th>PILOT STUDY</th>
<th>PHASE II STUDY</th>
<th>PHASE IIB / III STUDY Prep.</th>
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<tbody>
<tr>
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<td></td>
<td>IG0502</td>
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<tr>
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<td>Prep</td>
<td>10 patients</td>
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<tr>
<td></td>
<td></td>
<td>6 TAPh x 3 w</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>7 pts treated</td>
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<tr>
<td></td>
<td></td>
<td>Ab plasma,</td>
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<td></td>
<td></td>
<td>CSF</td>
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<td></td>
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<td>Cognit. score</td>
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<td>SPECT, MRI</td>
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<td>6 TAPh x 3 w</td>
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<td>6 pts treated</td>
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<td></td>
<td>Ab plasma,CSF</td>
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<td></td>
<td>Cognitive score</td>
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<td>SPECT, MRI</td>
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<td>2007</td>
<td></td>
<td>Flebogamma Dif</td>
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<td></td>
<td>4 patients</td>
<td></td>
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<td></td>
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<td>0.5 g/Kg/2w</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>6 m ttmt + 6 m. f/u</td>
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</tr>
<tr>
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<td>Ab plasma,CSF</td>
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<td>Cognitive score</td>
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<tr>
<td>2013</td>
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</table>

### PILOT STUDY
- **IG0502**: Prep, IG0502
  - 10 patients
  - 6 TAPh x 3 w
  - 7 pts treated
  - Ab plasma, CSF
  - Cognit. score
  - SPECT, MRI

### PHASE II STUDY
- **IG0602**: Prep, IG0602
  - 42 patients
  - Spain (2), USA (2)
  - RND, CTRL
  - 3 TAPh periods
  - Ab plasma, CSF
  - Cognitive score
  - SPECT, MRI

### PHASE IIB / III STUDY Prep.
- **IG1002**: Prep, IG1002
  - 365 patients
  - Spain, USA
  - 4 arms, RND, Control
  - TAPh & HPh-A+HPh-G periods
  - Fenwal prototypes (all sites)
  - Ab plasma, CSF
  - Cognitive score
  - PET, MRI
AMBAR Pilot Study: Main facts

- PE with Albumin is feasible in AD patients
- Plasma Ab40 and 42 are consistently mobilized during plasmapheresis period
- Cognition (MMSE and Adas-Cog) better than expected after 2 years of follow-up

Main objectives considered to be achieved and a Phase II randomized, controlled study was planned
AMBAR Pilot Study: Cognitive results

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AMBAR Phase II Study: Main facts

- PE is feasible in AD patients
- Plasma Ab is consistently mobilized during plasmapheresis periods
- No differences in CSF Ab levels
- Cognitive scores better in the treated patients compared to control patients
- Trend to be confirmed in a larger trial
AMBAR Phase II Study: Cognitive results

MMSE differences from baseline
(average +/- standard error)

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AMBAR Phase II Study: Cognitive results

ADAS-Cog differences from baseline
(average +/- standard error)

Weeks

Improvement

Impairment

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<table>
<thead>
<tr>
<th>Year</th>
<th>Study</th>
<th>Description</th>
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<td>2005</td>
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<td>2006</td>
<td>PILOT STUDY</td>
<td>Flebogamma Dif: 4 patients, 0.5 g/Kg/2w, 6 m tmt + 6 m. f/u, 4 pts treated, Ab plasma, CSF, Cognitive score, SPECT, MRI</td>
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<td>2007</td>
<td>PHASE II STUDY</td>
<td>Prep. IG0602: 42 patients, Spain (2), USA (2), RND, CTRL, 3 TAPh periods, Ab plasma, CSF, Cognitive score, SPECT, MRI</td>
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<td>2008</td>
<td>PHASE II STUDY</td>
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<td>2009</td>
<td>PHASE IIB / III STUDY</td>
<td>Prep. IG1002: 365 patients, Spain, USA, 4 arms, RND, sham, TAPh &amp; HPh-A + HPh-G periods, Fenwal prototypes (all sites), Ab plasma, CSF, Cognitive score, PET, MRI</td>
</tr>
</tbody>
</table>
Dual mechanism of action

Plasmapheresis:
- Remove plasma albumin with bound Aβ
- Remove other proteins which also bound Aβ (IG)

Replacement with Albutein®:
- Restore plasma albumin capacity to continue binding Aβ
Definitions

Therapeutic Apheresis (TAPh):

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Design

364 patients

1 FPE/week - A5%

Prototype Auto-C, Fenwal - 1 LVPE/month

A20%: 20g

LVPE: Low Volume Plasma Exchange
FPE: Full Plasma Exchange

F: Flebogamma DIF 5% (Fixed dose)
A: Albutein 5% - 20% (Weight-dependent dose)

AD Biomarkers
Neuropsychological Tests
MRI
FDG-PET

Sham Simulated treatment

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Devices

Therapeutic Apheresis (TAPh)
Standard device

Hemopheresis (HPh)
Grifols device (Fenwal)
<table>
<thead>
<tr>
<th>Status</th>
<th>Spain</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of planned recruiting sites</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Study Approval</td>
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<td></td>
</tr>
<tr>
<td>Health Authorities</td>
<td>Spanish Agency</td>
<td>FDA</td>
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<tr>
<td>Ethics Committee / IRB</td>
<td>H.U. Vall d’Hebrón Ethics Committee</td>
<td>Shulman Associates IRB</td>
</tr>
<tr>
<td>Active recruiting sites</td>
<td>1 site (18 randomized subjects with no relevant safety issues)</td>
<td>-</td>
</tr>
<tr>
<td>New amendment</td>
<td></td>
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<tr>
<td>Health Authorities</td>
<td>Accepted by Spanish Agency</td>
<td>Submitted to FDA</td>
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<tr>
<td>Ethics Committee / IRB</td>
<td>Accepted by H.U. Vall d’Hebrón Ethics Committee</td>
<td>Submitted to Shulman Associates IRB</td>
</tr>
</tbody>
</table>
Milestones

- First-patient-in (Europe): Q2 2012
- First-Patient-in (U.S.): Q3 2013
- Interim results (180 out of 365 patients): Q2 2015
- Preliminary results (total): mid 2016
Alzheimer’s disease therapy: immunotherapy

Now
Diagnosis and treatment

Clinical Healthy Individual
Preclinical AD
MCI - probable
Prodromic AD
AD
Phases
ID Hughes

AD: amyloid plaques
MCI - probable (Mild Cognitive Impairment amnestic probable) - prodromic AD:
Preclinical AD:
Clinically Healthy Individual

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Grifols – Alzheimer’s Franchise
Alzheimer’s disease

Current treatment options are limited, no new drugs in sight in the mid term

- No new drugs approved in the last 9 years in the US and some major markets
- A strong desire to find new treatment options among all customer groups, constrained by the complexity
- New Mab trials – one failed, another very mild efficacy, one failed Gamma secretase inhibitor trial
- Drugs in development unlikely to get approval anytime in the near 3-5 years
Our challenge is urgent

- 5.4 MM with disease in US (50% undiagnosed)
- Projected to increase to 13.2 MM by 2050
Alzheimer’s, a global epidemic

The growth in numbers of people with dementia (in millions) in high income countries, and low and middle income countries.
Since 2000, death rates from other major diseases have dropped, while deaths from Alzheimer’s disease have risen. Alzheimer’s disease (AD) is the 6th leading cause of death in the United States.

Change in number of deaths in the United States between 2000 and 2008:

- Breast Cancer: -3%
- Prostate Cancer: -8%
- Heart Disease: -13%
- Stroke: -20%
- HIV: -29%
- Alzheimer’s: +66%

AD is the 6th leading cause of death in the United States.

AD Pathogenesis and strategies for treatment

Possible Causative Factors

- Metabolism and Neurotransmitters
  - All approved drugs address this

- Amyloid and Tau Proteins*
  - Major focus of development of most companies

- Neuroinflammation

- Neurotropic factors

- Oxidative Stress and Excitotoxicity

Emerging view that treatments should go beyond addressing Amyloid, to include other inflammatory markers, oxidative stress markers, known and unknown and start earlier in the disease process

*B amyloid proteins are outside the neuron, Tau proteins are inside the neuron that cause tangles and neurodegeneration
## Alzheimer’s treatment paradigm

### Emerging consensus among leading thinkers in AD

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Alignment of Grifols Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage of Intervention</strong></td>
<td>Mild-Moderate, Severe</td>
<td>Early dementia due to AD</td>
</tr>
<tr>
<td></td>
<td><strong>Mild to moderate stages</strong></td>
<td>with Mini Mental score of 18-26</td>
</tr>
<tr>
<td><strong>Biomarker</strong></td>
<td>Amyloid only</td>
<td>Amyloid and other potential inflammatory markers, tau in severe cases</td>
</tr>
<tr>
<td></td>
<td>Plasmapheresis + Albumin and IG as a supplement or plasmapheresis + Albumin, addresses amyloid and possibly other markers</td>
<td></td>
</tr>
<tr>
<td><strong>Central/Peripheral</strong></td>
<td>Target CNS by developing drugs that cross BBB at sufficient levels</td>
<td>Peripheral sink hypothesis on which Mono clonal antibodies are based</td>
</tr>
<tr>
<td></td>
<td>Fits right in with peripheral ‘sink’ hypothesis</td>
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</table>
Modernizing the diagnosis of AD based on a continuum

Grifols Treatment strategy

<table>
<thead>
<tr>
<th>Normal</th>
<th>Pre-clinical</th>
<th>MCI</th>
<th>Alzheimer dementia</th>
</tr>
</thead>
</table>
| • Earliest signs  
  • Biomarkers | • Mild loss in memory and thinking  
  • Normal daily activities  
  • Biomarkers to determine MCI | • Cognitive and behavioral symptoms  
  • Impaired daily living  
  • Biomarkers to increase certainty |

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## Grifols’ Alzheimer's Franchise: The 3 Pillars

<table>
<thead>
<tr>
<th>Pillars</th>
<th>Albumin</th>
<th>Assay* and Genotyping**</th>
<th>Vaccine*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enabled by plasma exchange</td>
<td>Simple whole blood test and gene allele tests</td>
<td>Primary/Active immunotherapy Prevention</td>
</tr>
<tr>
<td>Patient benefits</td>
<td>A procedure that does away with periodic infusions and monitoring</td>
<td>Cascading of diagnosis and tracking outcomes</td>
<td>A true preventive</td>
</tr>
<tr>
<td>Differentiator</td>
<td>Simplicity of adherence</td>
<td>Comprehensive care from one company</td>
<td>Comprehensive care from one company</td>
</tr>
</tbody>
</table>

*From Araclon  
**Progenika - Potential to offer Genotyping tests for APoE 4 and PS1, 2 tests
Strategic approach to multi-business build

**PREVENTION**
- Immunotherapy (Araclon’s vaccine)
- Diagnosis kit (Araclon’s kit)
- Grifols’ Plasma Operations

**DIAGNOSIS**
- Diagnosis kit (Araclon’s kit)
- Automation kit (Grifols Diagnostic)

**TREATMENT**
- Plasma exchange + Hemopheresis (albumin)
- More convenient albumin (bags)
- Improved albumin (Alzamin®)
- Fenwal/Grifols device and Hemopheresis Centers (TBD)
- Immunotherapy (Araclon’s vaccine)

**PATIENT & FAMILY EDUCATION/SUPPORT**
- ACE model services
- TBD

**ALZHEIMER’S COMPETENCY CONTINUUM**

---

*Investors’ & Analysts’ Meeting, Austin, 2013*
Grifols Alzheimer’s franchise

- Is truly innovative, differentiated and builds on emerging science in AD

- Early proof of concept is compelling and phase 2B-US/3 EU would determine the dose of plasma proteins for efficacy

- Diagnostic assay will be the point of entry into this space

- Vaccine will round out the franchise

- Scale changing and therefore will benefit large patient population
PediGri ® and Grifols Academy
- PediGri®
- Grifols Academy
- Unique innovative concepts on traceability and education

www.pedigri.grifols.com
Grifols competitive advantages

What we all do?

- Manufacture drugs sourced from a human tissue (PLASMA) as starting material
- Work in highly regulated environment, fulfilling GMP regulations (US, EU, WHO)
- We all use quality systems to ensure product safety, efficacy and potency
- We need employees well trained, qualified and developed

What we do different from others?

- Equipment and facilities designed by Grifols Engineering, S.A. with new concepts on product safety and risk minimization management (i.e., fractionation and aseptic filling)
- Biomat, S.A. created 20 years ago as a new concept on Plasma Supplier Certification:
  - 48 MM units managed
  - Inventory system SGP 510k
  - In-house NAT techniques since 1994
  - Sample library 1986
Strategic knowledge & learning → traceability critical factor

Specifications
Policies
Standards
Regulatory requirements

Donor and
Company
requirements

Staff training/Qualification
Defined Methods
Defined Procedures
Validated Equipment

Procedures and/or Work Instructions
PM Schedules
Measurement Instrument Control
Measurement Instrument Calibration

Safe/Quality Product
On Time Delivery
Satisfied Customers
Records
Process/Product Data
Environmental Impact
Risk-benefit ratio

Key performance indicators
CQAs Critical Quality attributes
CPPs Critical Process parameters

Internal Audits
Inspections

Site qualification

INTERNAL PROCESS

LEARNING & GROWING

VISION & STRATEGY

COSTUMER
Plasma Supply Chain
Safety & Traceability from Donation to Patient

1. Donor medical examination and acceptance
2. Biological screening: EIA tests NAT tests
3. Plasma Supply Chain temperature control and custody
4. Quality control plasma reception
5. Look-back notification units removal 100% clearing
6. Inventory hold
7. Plasma testing prior to fractionation
8. Manufacturing safety steps
9. Quality control of final products
10. Release
11. Pharmacovigilance

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PediGri® (systems integration)

- **DMS/BECS: plasma collection centers/blood banks network**
  - Assigns unique #ID per unit, barcode print labeling
  - Plasma type, donor history, alerts/flags and release status

- **SGP: Central Logistics Platforms managing all units and plasma lots**
  - Inventories, plasma types, alerts and lookbacks through barcode ID

- **SAP: manufacturing**
  - Traceability from plasma manufacturing pool, intermediates and final product.
  - Final customer distribution
PediGri® concepts

Traceability

PediGri®, provides healthcare professionals with transparent information

Grifols manufacturing process has a comprehensive system enabling us to ensure full traceability from every donation.

Each plasma unit is coded and computer-traced from collection till final product.

During manufacturing each vial is laser etched enhancing traceability.

Traceability from every donation
Laser identification

Each vial is laser etched at the filling line and given an ID number.

This laser identification process offers a number of advantages intended to increase safety:

1. Close monitoring of sterile filling process
2. Avoid product counterfeiting
3. Ensure product traceability
PediGri® is the tangible expression of full traceability from every donation.
All users just need the product lot number to consult all the information generated by PediGri, from plasma collection to the final product:

Lot number can be found either on the product (laser etched and label), on the packaging or in the delivery note.

<table>
<thead>
<tr>
<th>Information relating to each donation</th>
<th>Specific information for each product lot:</th>
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<tbody>
<tr>
<td>Donation number</td>
<td>Total number of plasma units</td>
</tr>
<tr>
<td>Viral screening at the origin</td>
<td>Total volume of plasma</td>
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<tr>
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<td>Certificate of analysis of the product lot:</td>
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<tr>
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<td>- Plasma origin</td>
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<tr>
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<td>- Viral screening</td>
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<tr>
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<td>- Biochemical characteristics of final</td>
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<tr>
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<td>product</td>
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<tr>
<td></td>
<td>Product package insert/SPC</td>
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</table>
Request for information

Please select the required product and enter the lot number (10 digits) found either on the product (laser etched and label), on the packaging or in the delivery note.

Product: Alphanate®
Lot: B1A0LMLT1

[Consult button]
Available countries

USA

The units of plasma used in the manufacturing of this product can be found in the following table. To see the analytical results by unit, "click" on the corresponding icon.

<table>
<thead>
<tr>
<th>PRODUCT:</th>
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<th>SPC/Package insert</th>
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<tbody>
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<td>Flebogamma® 5% DIF</td>
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<table>
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<th>Liters</th>
<th>Tot.Units</th>
<th>Tot.Liters</th>
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</thead>
<tbody>
<tr>
<td>A006</td>
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<td>135</td>
<td>470</td>
<td>389</td>
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<td>2006</td>
<td>132</td>
<td>126</td>
<td>104</td>
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<tr>
<td>A043</td>
<td>2006</td>
<td>164</td>
<td>418</td>
<td>344</td>
<td>...</td>
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<tr>
<td>A043</td>
<td>2006</td>
<td>165</td>
<td>223</td>
<td>165</td>
<td>...</td>
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<tr>
<td>A043</td>
<td>2006</td>
<td>166</td>
<td>356</td>
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<td>997</td>
<td>820</td>
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<td>2006</td>
<td>90</td>
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<td>163</td>
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<td>A189</td>
<td>2006</td>
<td>125</td>
<td>1,240</td>
<td>1,009</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>A189</td>
<td>2006</td>
<td>126</td>
<td>676</td>
<td>549</td>
<td>...</td>
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<tr>
<td>A189</td>
<td>2006</td>
<td>127</td>
<td>712</td>
<td>573</td>
<td>2,628</td>
<td>2,131</td>
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<td>S005</td>
<td>2006</td>
<td>117</td>
<td>191</td>
<td>154</td>
<td>...</td>
<td>...</td>
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<tr>
<td>S005</td>
<td>2006</td>
<td>118</td>
<td>416</td>
<td>342</td>
<td>607</td>
<td>496</td>
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<tr>
<td>S007</td>
<td>2006</td>
<td>234</td>
<td>1,026</td>
<td>827</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>S007</td>
<td>2006</td>
<td>236</td>
<td>215</td>
<td>176</td>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>
# Certificate of Analysis - Flebogamma 5% DIF

## Certificate of Analysis

**Immune Globulin Intravenous (Human) 5% (IGIV 3I) 2.5 g (Flebogamma DIF)**

<table>
<thead>
<tr>
<th>Tests</th>
<th>Specifications</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lot Number</strong></td>
<td><strong>Specifications</strong></td>
<td><strong>Results</strong></td>
</tr>
<tr>
<td><strong>File Number</strong></td>
<td><strong>RESULTS</strong></td>
<td></td>
</tr>
<tr>
<td><strong>LOT NUMBER</strong></td>
<td><strong>SPECIFICATIONS</strong></td>
<td><strong>RESULTS</strong></td>
</tr>
<tr>
<td><strong>FILE NUMBER</strong></td>
<td><strong>TESTS</strong></td>
<td></td>
</tr>
<tr>
<td><strong>VOLUME</strong></td>
<td>&gt;= 50.25 ml</td>
<td>51.04 ml</td>
</tr>
<tr>
<td><strong>STERILITY</strong></td>
<td>No microbiological growth</td>
<td>No microbiological growth.</td>
</tr>
<tr>
<td><strong>IDENTIFICATION</strong></td>
<td>Abnormal precipitation lines are not observed</td>
<td>Abnormal precipitation lines are not observed.</td>
</tr>
<tr>
<td>Ig PURITY</td>
<td>&gt;= 97 % Ig</td>
<td>99.6 % Ig</td>
</tr>
<tr>
<td>PKA (3% w/V Ig)</td>
<td>&lt;= 10 IU/ml</td>
<td>&lt;= 2 IU/ml</td>
</tr>
<tr>
<td>ANTICOMPLEMENTARY</td>
<td>&lt;= 1 CH50/mg Ig</td>
<td>0.53 CH50/mg Ig</td>
</tr>
<tr>
<td>ACTIVITY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANTI-HBsAg</td>
<td>&gt;= 2.5 IU/g Ig</td>
<td>28 IU/g Ig</td>
</tr>
<tr>
<td>ANTI-A HAEMAGGLUTININS (3% w/V Ig solution)</td>
<td>1/64 dil. do not show agglutination</td>
<td>1/16 dil. do not show agglutination.</td>
</tr>
<tr>
<td>ANTI-B HAEMAGGLUTININS (3% w/V Ig solution)</td>
<td>1/64 dil. do not show agglutination</td>
<td>1/16 dil. do not show agglutination.</td>
</tr>
<tr>
<td>APPEARANCE</td>
<td>Clear or slightly opalescent, colourless or pale yellow sol. Pract. free part.</td>
<td>Clear or slightly opalescent, colourless or pale yellow sol. Pract. free part.</td>
</tr>
<tr>
<td>OSMOLALITY</td>
<td>240 - 370 mOsm/Kg</td>
<td>320 mOsm/Kg</td>
</tr>
<tr>
<td>pH</td>
<td>5 - 6.</td>
<td>5.6</td>
</tr>
<tr>
<td>TOTAL PROTEIN</td>
<td>45 - 55 mg/ml</td>
<td>49 mg/ml</td>
</tr>
<tr>
<td>MOLECULAR DISTRIBUTION</td>
<td>&gt;= 95%</td>
<td>100 %</td>
</tr>
<tr>
<td>Monomer+Dimer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
18 years since we first introduced PediGri® for Grifols plasma derivatives

- PediGri® was first available for products manufactured in the Spanish facilities
  - On-line access for lots of product launched after January 13, 2003 is available
- In September 2008 it was extended to Los Angeles products
- We expect to have it available mid term for Grifols Therapeutics products
Innovating in education & training: a unique concept

Curriculum

The 2012 curriculum featured a total of 102 different on-site class offerings.

The Academy believes in maintaining a balance between theoretical and practical learning experiences. By integrating hands-on training into the classroom curriculum, students can apply theoretical knowledge to real-world situations, enhancing their comprehension and retention.

The 2012 curriculum included established courses from the 2009-2011 academic years, as well as new programs designed to meet the evolving needs of the healthcare industry. This approach ensures that students are well-prepared for careers in a constantly changing field.

Academic Affiliations

The Academy has formal academic affiliations with various institutions, allowing students to earn credits that are transferable to other programs. These affiliations include partnerships with universities, colleges, and other educational institutions, providing students with diverse learning opportunities and pathways to professional advancement.

Facilities

The Academy’s state-of-the-art facilities are designed to support a variety of learning styles. These include classrooms equipped with the latest technology, laboratories for hands-on training, and specialized spaces for group discussions and presentations. The facilities are fully equipped to meet the needs of students from different regions, ensuring a consistent learning experience.

Schedule Locations: Atlanta, GA; Dallas, TX; Cincinnati, OH; Columbus, OH; Charlotte, NC; Las Vegas, NV; Chicago, IL

*Great expectations, the environment is very conducive to learning – Investor/Client Testimonial
Chaired by an **Academy Board** which designs, proposes and approves master programs and activities (Quality, Medical, Training, Technology & Operations)

Collaboration with professional colleges/universities

Alignment in education with differential perspective and values, as platform of opportunities and development

A campus of **8 sites with 2 main locations in USA** (Glendale, Phoenix, AZ and Indianapolis, IN) and one in **Barcelona**

The facilities provide technically advanced conference rooms with video conferencing, networked broadcasted facilities to make multi-site training, training rooms, computer rooms, DMS training lab, conference rooms

Since Jan 2007: **1,366 courses, 300 instructors, 8,285 participants** and visits and **155,000 hours of training**

“To draw on the Company's rich history and experience to enhance the educational and professional development opportunities for all employees”
In summary

- **Differentiation and innovation**: are values that cannot be unforeseen. Requires planning, strategical thinking and be part of the company spirit.

- **Transparency and trust**: confidence on the information systems and traceability are key factors in a business that manages at real time, donors, test results, materials inventories and product distribution.

- **Career building and talent retention**: invest in education and development of the employees is pivotal for continuous improvement and adapt to future dynamic scenarios. Only those who think differently will be prepared for challenges in 21st century.

- Investment on **innovation** in systems and process, as well as, on **education** perhaps has no immediate ROI but our past and present with products of high efficacy and safety, our history of no recalls and no compliance problems are the best demonstration that we were and are in the correct path.
Safety is a must !!!!

Transparency is the way
Immunohematology - Diagnostic Projects
Tradition of innovation in Transfusion / Immunohematology

- Grifols has been involved for more than 80 years in the development and innovation of Transfusional Medicine and Immunohematology

- Device for direct transfusion (invented by Dr. José Antonio Grifols Roig, 1928)

- Coombs washing centrifuge (patented in 1964 by Dr. Victor Grifols Lucas)
Grifols involvement with Transfusion / Immunohematology

- Clinical analysis lab in Barcelona (Spain) in 1940

- Dade reagents distribution in Spain (1960-1987)

- Manufacturing of reagents (1987 onwards)
Immunohematology

Market size: 1,200 M.USD aprox.*

Main market shares

* Source: Internal data, 2012
Gel test invention

- Invented by Dr. Lapierre in 1985. Technological discontinuity
- European patents owned by DiaMed (Patent expired in 2008)
- USA patent owned by DiaMed → rights to Ortho (patent expired 2012)
- In exchange of rights to Grifols in certain territories (Spain, Portugal, etc.) Grifols sold WADiana® instruments to automate gel test to DiaMed & Ortho (3,000 units approx)
- Agreements with DiaMed finished in 2008 when patent expired in Europe
- Agreement with Ortho in USA finished end of 2012 (1,300 units) when patent expired in USA
Worldwide installed base of WADiana®

Total units approx: 4,100

- Japan: 241 units
- Europe: 1,743 units
- China: 306 units
- C.A.: 225 units
- S.A.: 111 units
- SEAsia: 52 units
- Australia: 120 units
- N.A.: 1,302 units

Investors’ & Analysts’ Meeting, Austin, 2013
Grifols automation solutions for Immunohematology

- Diana Sampler® (Launched 1993)
- WADiana® (Launched 1998)
- Erytra® (Launched 2010)
- F-40 (To be launched 2015)
Technology innovation by Grifols in Immunohematology

<table>
<thead>
<tr>
<th>Liquid reagents and microplates</th>
<th>Dianagel®</th>
<th>DG-Gel®</th>
<th>Multicard®</th>
<th>Genotyping</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996 1st. Generation Grifols Gel Test</td>
<td>2003 2nd. Generation Grifols Gel Test</td>
<td>2009 Multiplex testing</td>
<td>2013 Progenika acquisition</td>
<td></td>
</tr>
</tbody>
</table>
We can say without doubt that:

Grifols has now the most comprehensive line of reagents, instruments and technologies for immunohematology typing and blood transfusion
Grifols Diagnostic: manufacturing sites

Spain

Switzerland

Australia
Progenika’s mission is to improve healthcare through the generation of In Vitro Diagnostic tests for:

- Prevention
- Diagnosis and prognosis
- Therapy response

Incorporation of cutting-edge technologies

Established in 2001, in Bilbao (Spain)

Workforce of circa100 worldwide

Strong commitment to Innovation:

- Team highly qualified (46% PhDs)
- Investment in R&D
- Strong commitment to quality (CE, ISO13485, CLIA, CAP)

Acquisition in 2013
### Main products

#### Classified by technological platform

<table>
<thead>
<tr>
<th>Complexity</th>
<th>Technology</th>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Next Generation</td>
<td>SeqPro Lipo</td>
<td>Genetic diagnosis of Familial Hypercholesterolemia</td>
</tr>
<tr>
<td></td>
<td>Sequencing</td>
<td>BloodChip Reference</td>
<td>Blood Group Genotyping</td>
</tr>
<tr>
<td></td>
<td>DNA-Chips</td>
<td>Pharmachip</td>
<td>Pharmacogenomic tool for drug metabolism genotyping</td>
</tr>
<tr>
<td></td>
<td>Beads</td>
<td>IDCore XT</td>
<td>Blood Group Genotyping (extensive phenotype)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ID HPA</td>
<td>Platelet Genotyping</td>
</tr>
<tr>
<td></td>
<td>ELISA</td>
<td>Promonitor</td>
<td>Monitoring of biological drugs (Infliximab, Adalimumab, Ethanercept, Rituximab)</td>
</tr>
</tbody>
</table>

Progenika is a powerful resource to develop new diagnostic products based on these state-of-the-art technological platforms.
What Progenika acquisition brings to Grifols - I

- Gives us access to a new technology (genotyping). (Several competitors still struggling to get hold of it)

- Genotyping can bring additional information that serology sometimes cannot provide (politransfused patients, lack of available commercial antibodies)

- Genotyping allows multiplex testing (one sample, several results)

- Products already exist and generate income
What Progenika acquisition brings to Grifols - II

- Strengthens Grifols’ image in the in-vitro diagnostic market as a technology advanced company
- Significantly increases our R&D capacity (circa 100 employees, basically a research company)
- Leverage with blood derivatives business (genetic test for alpha-1 deficiency)
- Other genetic testing (for instance, Familial Hypercholesterolemia, genotyping for Alzheimer, HLA genotype for organ transplantation)
- Brings exciting test menu in the field of biological pharmaceuticals monitoring running on one of our platforms (Triturus®)
Two different technologies

**DNA-chip**

- **Menu**: Single test – BloodChip®
  - Reference
- **Workflow**: 5 steps
- **Throughput**: 24 samples/10 hours
- **Hands on time**: 2 hours & 30 minutes

**xMAP®**

- **Menu**: Different antigens panels –
  - IDCORE, IDHPA
- **Workflow**: 3 steps
- **Throughput**: 96 samples/5 hours
- **Hands on time**: 1 hour
Neutralizing Antibodies

Immunogenicity is a dynamic process

RA patient treated with 3 mg/Kg IFX – Data obtained in collaboration with Pascual-Salcedo and Balsa - HULP clinical study
Biologics drug monitoring

Current portfolio of kits:

- Infliximab (Remicade®) - MSD (ROW) - J&J (USA)
- Adalimumab (Humira®) - Abbott
- Etanercept (Enbrel®) - Pfizer (ROW) - Amgen (USA)
- Rituximab (Mabthera®) - Roche

An ambitious R&D program to increase the Promonitor family is being developed:

- Golimumab (Simponi®) - J&J
- Tocilizumab (Actemra®) - Roche
- Ustekinumab (Stelara®) - J&J
- Certolizumab (Cimzia®) – UCB
- …
All these tests can be automated in our TRITURUS® platform

TRITURUS®

New TRITURUS®
to be launched during 2H2013
Take home messages

- Grifols is expanding its Diagnostics business globally at an accelerated pace
- Diagnostic Innovations have a long and successful history at Grifols
- Grifols is well positioned in Immunohematology with an existing portfolio and new product launches
- The acquisition of Progenika will allow Grifols to establish itself as an innovative leader in Immunohematology and also opens up the high potential Therapeutic drug monitoring market for the company
- A strategic sales and marketing alliance with Novartis in the US, with product sales expected end 2013, positions Grifols well for the future in the biggest global immunohematology market
Plasma Procurement: safety and logistics
Plasma Donors and Plasmapheresis
Grifols leads the industry in enhancing the safety of source plasma and health of donors

- Grifols exclusively uses US Source Plasma as the raw material for all commercial plasma therapies for global patient communities
  - High level of medical and quality oversights/enforcement of Grifols standard
  - Pools of repeat donors enable continuous monitoring of health of donors and safety of donated plasma including post donation information
- Grifols respects the significant value of plasma donors and strives for the best care of health and wellbeing of plasma donors through unique and robust medical oversight for donor center operation
- Grifols business starts with the selection of healthy plasma donors…. 
Fractionation / Product Manufacturing Process

1. COLLECTION
   - Donor
   - Pool

2. POOLING
   - Blood bank

3. FRACTIONATION
   - Cryoprecipitate
   - II + III Paste
   - IV-I Paste
   - Fraction V Paste

4. PURIFICATION
   - Protein purification and inactivation steps
   - Factor VIII
   - IGIV
   - Plasmin
   - AIPI
   - ATIII
   - Albumin

5. FILLING
   - Final bulk formulation and sterile filling

---

Investors’ & Analysts’ Meeting, Austin, 2013
Fractionation / Product Manufacturing Process

1. COLLECTION

2. POOLING

TESTING

SEROLOGY + NAT
- HIV
- HEPATITIS B
- HEPATITIS C
- CONFIRMATOR

OTHER TESTS
- HEPATITIS A
- PARVO B-19
- SPE + SYPHILIS
- ALT + ATYPICAL ABs

Inventory hold (60-90 days)
## Plasma vs. Blood Donation: Different processes

<table>
<thead>
<tr>
<th></th>
<th>Blood Donors</th>
<th>Plasma Donors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Donation time frequency</strong></td>
<td>20-30 minutes, every 8 weeks (plasma + cell donation)</td>
<td>45-70 minutes, twice in a 7 day period (plasma only)</td>
</tr>
<tr>
<td><strong>Donation to next step</strong></td>
<td>After single set of negative laboratory test results of single donation → hospital for patient use</td>
<td>After two or more sets of negative test results from independent donations → to logistics center for 60-90 day inventory hold</td>
</tr>
<tr>
<td><strong>Patient use</strong></td>
<td>Direct transfusion. &lt;br&gt; • One donation = one treatment  &lt;br&gt; • National medical guidelines: many centers ≠ single protocol  &lt;br&gt; • Everything on bag to patient</td>
<td>Material used for further manufacturing. &lt;br&gt; • One donation ≠ one treatment  &lt;br&gt; • National, harmonized medical network: many centers = single protocol  &lt;br&gt; • Plasma with multiple sets of negative test sets, is then processed, purified to retain the single protein of interest</td>
</tr>
</tbody>
</table>
~25,000 donations per day

- Grifols' 150 donor center network has harmonized selection and deferral protocols controlled with strong medical network that maintains consistent quality of the product and safety of the donor

- Less than 0.0015% donations have medical incidents, mostly minor in nature

- Donation centers are audited and certified by FDA, European Health Authorities, CLIA and the PPTA
  - Corporate Quality systems in place
  - Additional Corporate compliance audits
Selection of safe and healthy donors

- Members of the local community:
  - Government issued photo ID and social security/visa card
  - Evidence of permanent address

- National Donor Deferral Registry (NDDR)
  - Inter-company national database of all plasma donors with a positive screening test for HIV, Hepatitis B and Hepatitis C

- Detailed Medical Evaluation by licensed healthcare professionals

- Routine Health Screen prior to each donation
Laboratory testing

Samples are collected from each donation for testing. Each donor has a minimum of 10 tests for each donation:

- Serological HIV, Hep B, Hep C
- NAT HIV, Hepatitis A, B & C
- Serum Protein Electrophoresis
- Liver tests (ALT)
- Syphilis
- NAT for Parvovirus B19
- Blood cell antibodies
The Effect of Plasmapheresis in Blood Cholesterol Levels of Plasma Donors*

* accepted for publication in Vox Sanguinis. Electronic pre-release available

Investors’ & Analysts’ Meeting, Austin, 2013
Grifols 1st priority is the health of donors and the safety of Plasmapheresis procedure

From the time of the invention of Plasmapheresis in '50s, Grifols has been observing good health of repeat plasma donors

Grifols established non-profit foundation named “Jose-Antonio Grifols Foundation” to support science and medical research of plasma donors and their health

The “Donor Cholesterol Study” is the first project supported by the Foundation to investigate possible positive effects of Plasmapheresis on Plasma donors and their health
Objective and study design

- Therapeutic LDL apheresis is known to decrease LDL levels in patients with familial hypercholesterolemia

- The effect of the plasmapheresis process used during donation (smaller volume, shorter time) in cholesterol levels has not been evaluated thoroughly

- Multicenter longitudinal cohort study with applicant plasma donors
  - 663 participants with diverse demography
  - Nine sites in the United States
  - Total cholesterol, HDL, direct LDL

- Prior to each donation participants also completed a short questionnaire on lifestyle factors that could affect cholesterol levels
## Baseline Information

<table>
<thead>
<tr>
<th></th>
<th>Group</th>
<th>Number of Donors</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Cholesterol</strong> (mg/dL)</td>
<td>High (≥ 240)</td>
<td>38</td>
<td>5.7</td>
</tr>
<tr>
<td></td>
<td>Higher than desired (200-239)</td>
<td>132</td>
<td>19.9</td>
</tr>
<tr>
<td></td>
<td>Acceptable (&lt; 200)</td>
<td>493</td>
<td>74.4</td>
</tr>
<tr>
<td><strong>LDL</strong> (mg/dL)</td>
<td>High (≥ 160)</td>
<td>41</td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td>Higher than desired (130-159)</td>
<td>112</td>
<td>16.9</td>
</tr>
<tr>
<td></td>
<td>Acceptable (&lt;130)</td>
<td>510</td>
<td>76.9</td>
</tr>
<tr>
<td><strong>HDL</strong> (mg/dL)</td>
<td>Low (&lt; 40, males; &lt;50, females)</td>
<td>228</td>
<td>34.4</td>
</tr>
<tr>
<td></td>
<td>Average (40-60, males; 50-60, females)</td>
<td>341</td>
<td>51.4</td>
</tr>
<tr>
<td></td>
<td>Optimal (&gt;60)</td>
<td>94</td>
<td>14.2</td>
</tr>
<tr>
<td><strong>Total Study Donations</strong></td>
<td>2-10</td>
<td>296</td>
<td>44.6</td>
</tr>
<tr>
<td></td>
<td>11-20</td>
<td>168</td>
<td>25.3</td>
</tr>
<tr>
<td></td>
<td>21-32</td>
<td>199</td>
<td>30.0</td>
</tr>
</tbody>
</table>

* AHA/NHLBI-NCEP classification
Data Analysis: GEE statistical model

- A multivariable repeated measures regression model using the General Estimating Equation (GEE) approach was used to analyze the data as it has the capability to use information for each donation, control for unequal contribution and allows to estimate the independent contribution of each variable.

- Potential variables of interest: gender, age, weight, race, baseline total cholesterol, LDL, and HDL, time between donations, number of donations, lifestyle changes.

- All variables of interest were evaluated using the model to determine which variable had significant effects.
  - Donor age, race, weight, and number of prior donations had little effect on the change observed in cholesterol levels.
  - Responses on the lifestyle questionnaire did not show an independent effect on cholesterol change.

- The validity of the model was checked by comparing the estimated results of the GEE-model to those actually observed in the dataset.
Effect of Plasmapheresis in total cholesterol (mg/dL) - Female & Male donors

Females

Days between donations

Males

Days between donations

* = p<0.01
‡ = p<0.05
Effect of Plasmapheresis in LDL (mg/dL) - Female & Male donors

Females

Males

Change in Total Cholesterol (mg/dL)

Days between donations

Days between donations

* = p<0.01
‡ = p<0.05

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Effect of Plasmapheresis in HDL (mg/dL) - Female & Male donors

Females

Males

Days between donations

Days between donations

Investors’ & Analysts’ Meeting, Austin, 2013
Conclusions of the cholesterol study

- The results of this study suggest that plasma donation may affect cholesterol levels in the days following plasmapheresis.

- Baseline cholesterol level and interval between donations are the key factors, not total number of donations:
  - Donors with high baseline total cholesterol or LDL, show a significant decrease.
  - Donors with normal baseline total cholesterol or LDL, have minimal decrease.
  - Donors with low baseline HDL, showed a slight increase.

- Only 14 out of 9,135 donations had a mild or moderate event. No severe or serious events.
Summary

- Grifols has solid and reliable quality systems in place supporting the largest donor center network in the world.

- The Grifols’ model for medical oversight toward its donor center operations is unique in the industry, which supports the company’s commitment to the safety of plasma donors and the final plasma products.

- The cholesterol study has been the first project to assess the impact of plasma donation in the health of donors.

- Grifols will continue its medical and scientific efforts in order to assure the health of donors and gain medical community’s knowledge and appreciation of the plasmapheresis and contribution of plasma donors.
Grifols Plasma Operations
Infrastructure is vital
Grifols donor center network: 150 US donor centers in 30 States
Significant role of Grifols Plasma infrastructure

The infrastructure is the basis for plasma product safety and operational efficiency

- Assure integrity and robustness of Grifols Safety and Traceability concept from the plasma collection to the final release for fractionation (PediGri®)
- High level of quality and regulatory compliance
- Optimize inventory management of high-valued Sauce Plasma
- Better plasma utilization (loss prevention and preservation of proteins)
- Reduce the operational challenges at donor centers
- Reduction of overall plasma cost
### Robust In-House infrastructure support

<table>
<thead>
<tr>
<th>Category</th>
<th>Grifols Academy</th>
<th>IT System Support</th>
<th>Supply Chain Management</th>
<th>Facility Services</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Donors</strong></td>
<td>• Questionnaire and Physical • Plasma Suitability • Medical Records</td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Donation</strong></td>
<td>• Facility Management • Unit and Sample Management • QA/Compliance/Records</td>
<td></td>
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<tr>
<td><strong>Testing</strong></td>
<td>• Facility and Equipments • Sample and Testing • QA and Result Reporting</td>
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<td><strong>Logistic</strong></td>
<td>• Transportation • Unit Verification and QA • Warehousing and Inventory</td>
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<tr>
<td><strong>Release</strong></td>
<td>• Look back management • Final Batch Release • Delivery to 3 Plants</td>
<td></td>
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</tr>
</tbody>
</table>

**Investors’ & Analysts’ Meeting, Austin, 2013**
Plasma IT system support

Ideal IT Infrastructures for Robust Data Management

To assure high level of plasma traceability, donor center quality and high efficiency operation, Grifols elected **100% In-House IT solutions**

- 100% In-House IT network management and data hosting for donor center management and enterprise IT systems
- Development of In-House software to meet specific demand of Plasma Operations
- Robust redundancy for all communication network and data management
- Specific hardware resources for donor centers
Plasma Supply Chain Management

Right type of plasma, right volume to right location on time

Due to the critical quality requirements, volume and financial value of source plasma, Plasma Supply Chain Management group provides high standard logistic solutions:

- Two plasma logistics centers; in California and North Carolina
- Ground breaking for new fully automated Plasma Logistic Center in North Carolina
- Cold-storage and plasma inventory management
- Final clearing and quality release of source plasma to three plants
- Domestic and International cold-chain distribution management
Donor center facility services

Spirit of Grifols Engineering

Capitalizing significant expertise and know-how of Grifols Engineering, GPO Facility Services team provides high standard, cost effective and timely services to 150 donor centers, testing laboratories and warehouses

- Identifying New Center Locations
- Real Estate Management
- Facility Design, Layout
- Construction Management
- Facility Maintenance
- Donor Center Process Automation

In 2012, six new state-of-the-art donor centers were opened and twenty one major center expansion/renovation projects were completed
Grifols plasma infrastructure summary

- Grifols has been aggressively investing into Grifols Plasma Infrastructure to materialize the Company’s concept of plasma safety and traceability

- The industry-leading Grifols Plasma Infrastructure offers significant advantages to capitalize the economy of scale for plasma cost reduction

- Grifols manages all critical Plasma Infrastructure In-House to meet specific criteria of the Company, timely adaptation of various technological advancements and capitalize the know-how accumulated

- The current Grifols Plasma Infrastructure is capable of handling the long term plasma needs of the Company
Grifols Plasma Operations
Testing Operations Review
Grifols Plasma Testing Operation

- Plasma Testing is the life-line of any plasma collection organization
  - Assure the health status of plasma donors
  - Assure the safety of plasma collected and released for fractionation
  - Assure the quick turnaround of test results for quick actions by donor center
  - Manage massive test results database for Quality and Regulatory Compliance

- Plasma Testing Operation needs to manage various risk, challenges and opportunities to maintain sustainable plasma collection operation
  - Business Interruption/Disaster Recovery strategies
  - Adaptation / acceptance of new technologies
  - Cost optimization

- Like fractionation capacity, increasing significant testing capacity requires substantial investment and time
Why Austin and San Marcos, Texas?

- Secure access to two major airports (San Antonio and Austin) for redundant sample logistic
- Access to qualified and educated labor pool for testing operators with 100,000 students at 15+ universities and colleges

Why two laboratories in close proximity?

- Redundant testing capacity
- Located in separate electric power grids
- Located in the area of different weather pattern
- Share management resources
- Mobility of staff between laboratories
Grifols Plasma Operations - plasma testing laboratories

Austin Testing Laboratory
- 25,000 sq ft
- 81 employees

San Marcos Testing Laboratory
- 75,000 sq ft
- 85 employees
- Designed and built by Grifols Engineering
Laboratory processes are designed for controlled high volume testing

- Capacity: up to 15 million annual donations
  - 32 million annual samples
  - 127 million annual reportable results

- On a monthly basis, this equates to ........
  - Processing 1.25 million donations
  - Processing 2.6 million samples
  - Reporting over 10 million test results

Testing capacity and capabilities provide the flexibility to meet current and future production demands
Sample organization and processes are complex

- Receive up to 5 different samples per donation depending on the testing requirements
- Each sample has own unique process flow
- Each test has own unique sample suitability requirements:
  - Storage – temperature, freeze/thaw cycles
  - Hemolysis
  - Lipemia
  - Volume
- Multiple quality checks throughout the processes to ensure all critical steps and requirements are met
- Complete traceability is maintained of each sample and testing performed from the moment of receipt through result release
On a daily basis, the laboratories perform 18 different tests

- **Core Testing**
  - Viral Marker Serology: anti-HCV, anti-HIV 1,2, HBsAg
  - HCV, HBV, HIV, Parvo B19, HAV by NAT
  - ALT
  - Viral marker serology confirmatory testing

- **Ancillary Testing**
  - Screen for antibodies to RBCs
  - Serum Protein Electrophoresis
  - Total Protein
  - Syphilis screen
  - Anti-Tetanus Titer
  - Anti-HBs Titer
Plasma testing process flow

DONOR CENTER

SAMPLES

Sample Shipper

DMS Scanned

Results Reported
Automatically

Receive Shipper

Accession & Organize

Automated Sample Suitability

Decap & Queue for Testing

Pooling (NAT Only)

Electronic Manifest

Results Reported
Quality Check

Release to Quality

Independent work review

Analysis

Quality Check

Check1

Check2

Check3

Check4

Check5

Check6

Check7

Investors’ & Analysts’ Meeting, Austin, 2013
Automated sample handlers:

Automates test specific sample quality checks: volume, hemolysis and lipemia

- Provides standardization of process quality control checks

Automates sample de-capping and sorting directly into analyzer specific sample racks

- Increases process efficiency and control
Nucleic Acid Technology:

Self contained integrated NAT analyzer that fully automates all steps from sample processing (extraction), amplification, detection and data reduction

- Significant improvement in process control
- 75% labor reduction in comparison to previous manual processing
- Ability to increase production at minimal labor cost
Strong scientific and technical expertise and experience

The laboratories’ Scientific & Technical Team provides a level of expertise and experience that surpasses any other US Plasma Testing (Screening) Laboratory

- Clinical Trials
- Research studies
- Evaluation and development of new testing techniques
- Informatics – data mining

Expanding horizon of plasma and blood testing to accommodate future demands and innovations

- Immunohematology Reference Laboratory
- Genetic testing opportunities with Progenika technologies
Global Commercial Strategy Bioscience
Global Markets

2012 Sales Analysis
Executive summary

- Strong sales growth and leadership position in key products
- Commercial model providing a sustained future sales growth
- Geographical expansion opportunities
- Expansion opportunities with existing portfolio
- New products and projects to support the present growth model
General sales evolution by Division 2012

Strong and balanced sales growth

<table>
<thead>
<tr>
<th>Division</th>
<th>2011 Proforma</th>
<th>Total 2011</th>
<th>Total 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>RM &amp; Others</td>
<td>2,303</td>
<td>7.6% cc</td>
<td>2,621</td>
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<tr>
<td>Diagnostic</td>
<td>13.8%</td>
<td>14.5%</td>
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<tr>
<td>Hospital</td>
<td>12.0%</td>
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<tr>
<td>Bioscience</td>
<td>14.5%</td>
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Investors’ & Analysts’ Meeting, Austin, 2013
Sales by geographic area 2012

Strong performance in NA accounting for 63.3% of the total sales. NA and ROW have been the growth drivers during the year 2012.
Iberian sales represents 8.6% of the total company sales versus last year’s 10.1%.
Central Europe sales have increased by a 7.0%
Sales evolution over the last 10 years

The Group’s new dimension is consolidated after the Talecris acquisition. Bioscience division represents 88.7% of total Company sales in 2012.

CAGR: 20.9%
Hospital division achieves a slight positive growth in 2012 and establishes a 7.4% CAGR in a period of 10 years. It is important to consider that this division is currently concentrated in the Spanish market.
Blood typing products helped to increase sales up to 134MM € which means a growth of 14.5% in 2012, maintaining for the last 10 years a CAGR of 10.6%
Geographical Expansion Opportunities
Emerging markets growth opportunities - 2011

MRB Grifols market share plasma proteins 2011

Grifols market penetration is much higher in NA compared with other geographies. The focus in regions such as LATAM, Asia and Middle East should provide opportunities for growth.

2011 Proforma

Highest level of Growth opportunities
Grifols has a strong direct commercial presence in the Emerging Markets. The 12th unit in the region has recently been established in Dubai 2013.
Emerging markets growth opportunities: China

We are changing the status of our presence in China from a **RO (Representation Office)** to a **WFOE (Wholly Foreign Owned Enterprise)**. This will allow us to enlarge the scope of our activities.
Constitution of GRICEI with a minority local shareholder, in order to build manufacturing facilities, start the productive activity and reinforce Grifols presence in the region.
In Q1 2013 Grifols sales in ROW have increased up to 28.4% cc versus Q1 2012.
Grifols next priorities among the group of emerging markets will be:

During 2013 the company will consider its position in the referred countries and will develop long term strategies to secure an appropriate market penetration.
Grifols main products hold leading positions - Worldwide

- **IVIG**: 26% Market share (N.1)
- **Alpha1**: 66% Market share (N.1)
- **pdFactor VIII**: 19% Market share (N.2)
- **Albumin**: 14% Market Share (N.3)

Grifols main products hold leading positions – North America

- **IVIG**: 38% Market share
  - N.1
- **Alpha1**: 59% Market share
  - N.1
- **Albumin**: 22% Market share
  - N.3
- **pd Factor VIII**: 51% Market Share
  - N.1

Plasma fractionation throughput defined based on the achievement of balance among several proteins

Allocation of products to the different markets prioritizing:
- Warranty of stable supply
- Good price returns
- Fast collection of receivables
- Strategic value

Optimization of the “income per liter of plasma”

Improvement of the operational efficiency
2012 Sales Analysis North America
2012 North America results

NA sales increased $209M (+11.4%)

- U.S sales increased 11.3%
- All US Business units achieved double-digit growth
- Canada sales increased 11.7% (Final year of contract)
- NA Q1-2012 growth vs. Q4-2011 +12.8%
- Q1-2012 vs. Q1-2011 growth was $87.4M or +20% (on pro-forma basis)
2012 North America – Business unit results

Immunology 2012 Achievements

- IG, Albumin and HyperRAB sales all increased significantly
- New Gamunex® brand campaign developed
- Albumin sales increase key to balancing the liter
- HyperRAB delivered record sales as Grifols’ market leading product addressed abnormally high incidence of rabies

Pulmonary 2012 Achievements

- New patient starts increased 11%
- Test kit returns increased 94%, demonstrating a willingness to test by physicians
- Sales force expansions in 2012 and 2013 are driving increased diagnosis and treatment
2012 North America – Business unit results

Hematology 2012 Achievements

- Alphanate® sales growth significantly above market
- Launched new Alphanate® “Natural Protection” campaign
- Thrombate® sales increased significantly, expanded SF in 2013

Canada 2012 Achievements/Contracts Status

- Sales increased 11.7%
- 90% of business split between Canadian Blood Services (71%) and Hema-Quebec (19%) contracts

Grifols selected as primary supplier to CBS (+60%) for new 5yr contract: Commercial IGIV Contract fractionation and Secondary supplier to Hema-Quebec
Underdiagnosed Undiagnosed Diseases
Growth Opportunities
Promotion is increasing awareness and use of AT concentrate and Thrombate®

- Targeted physicians report higher unaided brand awareness compared to non-targets.
- Among all physicians, unaided awareness of Thrombate® increased from 2011 to 2012.
- 23% of targeted physicians expect to increase use of AT concentrate in the next 12 months.
- 41% of targeted physicians would like more visits from AT concentrate sales reps.

**Unaided Brand Awareness**

<table>
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<tr>
<th></th>
<th>Target Physicians</th>
<th>Non-target Physicians</th>
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</thead>
<tbody>
<tr>
<td>Thrombate</td>
<td>39%</td>
<td>26%</td>
</tr>
</tbody>
</table>

Source: ATU July 2012
Antithrombin deficiency

With sales force promotion, hereditary AT deficiency has grown from 38% to 47% of the total uses of Thrombate® and remains the single largest use of the product.

- Hereditary AT deficiency: 38%
- Cardiac by-pass + high risk CV surgery: 17%
- Liver / kidney transplant: 7%
- Obstetrical / gynecological surgery: 11%
- Other surgical procedures: 4%
- Sepsis / DIC: 10%
- Acute lymphoblastic leukemia treated with asparaginase: 5%
- Renal disease / on chronic hemodialysis: 4%
Antithrombin opportunities - I

Cardiac Surgery an opportunity to grow with antithrombin (AT) and improve balanced fractionation

Background

- 700,000 cardiac surgeries with CPB are performed annually in the US and EU (1)
- Pre-op levels of AT are predictors of heparin resistance which occurs in up to 30% of CPB procedures (2)
- Moreover AT consumption during CPB may trigger post operative thromboembolic complications (2)
- Low AT levels at ICU admission post-CPB are associated with a poor outcome and predictive of prolonged ICU stay (3)

(1) Holsworth Jr et al. Perfusion, 2013 and estimations from primary market research.
(2) Ranucci M et al. JThorac Cardiac Surg, 2012
(3) Ranucci M et al. Crit Care Med, 2005
Antithrombin opportunities - II

Strategic fit

- Labeling expansion in the US (leading AT product and unique pdAT)
- Consolidation of clinical experience on acquired deficiencies in non US countries
- Significant contribution to increase profitability of liter of plasma and balanced fractionation
- Synergies with albumin (same target group as some albumin users: cardiac anesthesiology)
Alpha-1 continues to represent a significant opportunity - I

Strong Market Dynamics

- Chronic, life-extending therapy helps ensure certainty of demand
- U.S. A1PI sales have increased at a 17% CAGR since 2001

Significant Opportunities to Expand the Market

- Patients remain under-identified and under-treated
- 0.5% – 1% of the 40 million patients with COPD have A1PI Deficiency
- Many patients are frequently misdiagnosed

2. Reflects MRB data and internal Grifols estimates
Increased diagnosis and treatment has more than doubled the number of Alpha-1 patients in 10 years

Grifols has lead this market by investing in proven approaches
- Simple blood test for diagnosis
- Dedicated sales and marketing teams
- Prolastin® Direct service model which includes disease management

Opportunities exist to enhance and extend the model
- Extending model to more countries
- Enhancements to testing approach
- Rapid Test
- Genetic (Progenika)

Sources: Estimates using labeled dose and MRB data
Accelerated identification of new patients with Alpha-1 Antitrypsin Deficiency with point-of-care AlphaKit® QuickScreen

- AATD is currently underdiagnosed
- Grifols provides free test kits to physicians in many countries, but the need still exists for easier screening and diagnosis

Solution: Novel point-of-care screening test that a physician or nurse can administer in the office rather than sending out to a lab
- Identifies the presence of the Z-protein, responsible for over 95% of severe Alpha-1 deficiency cases
- Patients who test positive undergo a confirmatory lab test to verify genotypes
- Product in development phase – launch to major markets over the next 1-2 years
Cystic fibrosis (CF) is an inherited chronic disease that affects the lungs and digestive system of about 30,000 children and adults in the United States (70,000 worldwide). A defective gene and its protein product cause the body to produce unusually thick, sticky mucus that:

- clogs the lungs and leads to life-threatening lung infections;
- obstructions the pancreas and stops natural enzymes from helping the body break down and absorb food.

Cystic fibrosis represents an opportunity to extend growth of Alpha-1 Antitrypsin

Phase II clinical study is on-going using novel aerosol formulation of Prolastin®

Background:

Source: CF Foundation
Cystic fibrosis represents an opportunity to extend growth of Alpha-1 Antitrypsin

New Prolastin® indication with significant unmet need

- Despite recent advances, significant unmet need remains
- About 45% of CF experience severe exacerbations requiring more than one hospitalization per year
- The frequency of such exacerbations increases with age and disease severity
- Alpha-1 Antitrypsin has a novel mechanism of action with an opportunity to be the ‘first and only’ anti-inflammatory agent for CF

Strategic fit

- Extends Grifols leadership in Pulmonology
- Broadens Prolastin® franchise into the aerosol market

Source: CF Foundation
Grifols partners with Aradigm to commercialize Pulmaquin™

Grifols Aradigm Partnership
- Exclusive Global commercial rights for Pulmaquin™
- Pulmaquin™ is a liquid mixture of free and liposomal ciprofloxacin to be delivered once daily with a PARI LC™ Sprint Nebulizer
- Phase III Asset being developed for non-Cystic Fibrosis Bronchiectasis by Aradigm

Complementary customer targets and messages
- Significant overlap with current Prolastin-C® customers
- Sales opportunity: $300MM in 3rd full year
- Leverages existing Prolastin-C® sales force
- Pulmaquin™ has potential in Cystic Fibrosis, Grifols has initiated Alpha-1 CF program

Source: Primary Market Research

Investors’ & Analysts’ Meeting, Austin, 2013
No currently available therapies for the treatment of Bronchiectasis

Pulmaquin™ offers a unique product profile that could enable premium pricing and significant market share

Target patient population

- No approved treatments for BE and significant unmet need
- Obstructive lung disease leading to downward spiral of lung injury, infection, inflammation, airflow obstruction
- Estimated 110,000 BE patients (US), of which approx. 30% are colonized with P. aeruginosa

Product profile offers clear advantages

- Strong physician reaction based on phase 2 data
- Once a day dosing with lower systemic exposure
- Alternative antibiotic class
- Assumes 7 year orphan exclusivity

**Estimated US Treatment of Bronchiectasis**

Patients Non-Cystic Fibrosis Bronchiectasis (NCFBE)

Source: Primary Market Research 2012
Albumin opportunities

Investing in new potential uses of albumin in hepatology to reinforce unique properties of albumin

Background

- USA and EU accounts for more than 1.5 million cirrhotic patients (1)
- 50% of cirrhotic patients will develop ascites in 5 years (2)
- 23% of cirrhotic patients hospitalized due to a decompensation where diagnosed with Acute on Chronic Liver Failure (ACLF) a life-threatening condition with more than 30% 28-day mortality (3)

Strategic fit

- New uses will reinforce albumin properties beyond fluid management
- Reinforcing Grifols leadership in hepatology

(1) [www.mdguidelines.com/cirrhosis-of-the-liver](http://www.mdguidelines.com/cirrhosis-of-the-liver) and estimates from “The burden of liver disease in Europe. A review of epidemiological data” (EASL, 2013)
(3) Moreau R et al. Gastroenterology, 2013
IVIG consumption per capita has continued to grow in the Emerging Markets

Significant Opportunities remain to expand the IVIG Market
- New Indications
- Improved Diagnosis & Treatment
- Expansion of healthcare in emerging markets

New Indications
- Post Polio Syndrome
- Myasthenia Gravis

Improved Diagnosis
- CIDP
- Primary Immune Deficiency

Source: MRB data, grams per (000) population, Brazil 2010, Mexico 2010, Russia 2011
Grifols is initiating Myasthenia Gravis clinical program as opportunity to extend growth of IVIG.

**Background**

- Myasthenia Gravis is a neurological autoimmune disorder characterized by fluctuating weakness of voluntary muscle groups.

**Substantial patient population**

- 45,000 to 55,000 patients (US) → Likely orphan designation.

---

**Estimated US Treatment of MG**

Source: Myasthenia Gravis Foundation of America, Primary Research.
New IVIG indication with significant unmet need
- MG patients treated with steroids +/- oral immunosuppressants → suboptimal efficacy, significant side effects
- IVIG use for maintenance is uncommon

Strategic fit
- Extends Gamunex® leadership in Neurology (MG subspecialists = CIDP subspecialists)
- Physicians typically have twice the number of MG patients as CIDP patients

Probability of success
- IVIG standard of care in acute Myasthenia crisis;
- Published evidence for improvement in worsening
Establish a market leader position with a highly differentiated Fibrin Sealant offering to address unmet needs

Capture significant market share of the stand alone human thrombin market

Build a Biosurgery sales channel for the sale of additional innovative Biosurgery products beyond fibrin sealant

Worldwide Fibrin Sealant Market is expected to grow with CAGR of 8.5% through 2016 and market penetration is very low – 2% - 39% depending on region and specialty
Diagnostics

- Acquisition of controlling interest in Progenika

- Products in the areas of Blood Genotyping, Drug Monitoring and Personalized Medicine

- Technologies to develop new diagnostic test synergistic with other company activities

- Araclon test for early diagnosis of Alzheimer disease
Intravenous solutions

Existing signed contracts include products such as:

- PVC empty bags
- Standard large volume parenteral solutions
- Irrigation solutions
- Lipid emulsions
- IV Paracetamol, etc.
Third party manufacturing for companies as the following:

- CDM Lavoisier
- Zoetis
- Aguettant
- MacoPharma
- Eurospital
- Formula
- Mylan
- Cadence Pharmaceuticals
- Terumo

Product destinations are several European markets, the US and Asia

Multiple agreements are in development stage or even in regulatory phase
Executive summary

- Strong sales growth and leadership position in key products
- Commercial model providing a sustained future sales growth
- Geographical expansion opportunities
- Expansion opportunities with existing portfolio
- New products and projects to support the present growth model
Executive summary

- Grifols has today three state-of-the-art manufacturing sites offering a reliable and consistent supply to the market

- Facility and paste cross approvals are progressing and on track. New investments for key products and infrastructure are being made

- Successful innovation through Grifols Engineering, S.A. are further improving quality and operational efficiencies
Grifols Bioscience manufacturing sites

Barcelona, Spain
Operations Employees: 790

Los Angeles, California
Operations Employees: 524

Clayton, North Caroline
Operations Employees: 1,270

Three State of the art manufacturing sites with excellence in compliance is a warranty for reliable and consistent supply.
Manufacturing process steps

1. COLLECTION

2. POOLING

3. FRACTIONATION
   - CRYOPRECIPITATE
   - II + III PASTE
   - IV-I PASTE
   - FRACTION V PASTE

4. PURIFICATION
   - PROTEIN PURIFICATION AND INACTIVATION STEPS
     - FACTOR VIII
     - IGIV
     - Plasmin
     - ATIII
     - AIP1
     - ALBUMIN

5. FILLING

FINAL BULK FORMULATION AND STERE FILLING

Donor

Investors’ & Analysts’ Meeting, Austin, 2013
Fractionation capacity

8.5
- Barcelona: 2.2
- Los Angeles: 2.3
- Clayton: 2.5
- Melville: 1.5

12.5
- Barcelona: 4.4
- Los Angeles: 2.3
- Clayton: 5.8

Fractionation investments pace future growth

*Melville sold to Kedrion*
Purification capacity: 2016 Forecast

<table>
<thead>
<tr>
<th>Fractionation</th>
<th>Cryo</th>
<th>IVIG</th>
<th>Alpha-I</th>
<th>Frac V</th>
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<tbody>
<tr>
<td>12.5</td>
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## Manufacturing sites and products

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### Paste cross approval update

Cross Site approval of pastes requires a considerable investment of time, material and resources… However it gives better plasma liter utilization, supply reliability and synergies to the business.

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<th>LA Site</th>
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<td>II + III IGIV</td>
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</tr>
<tr>
<td>Specific II+III IGIM’s</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

- BCN: Barcelona
- LA: Los Angeles
- NC: Nashville
Major investments: Fractionation

BCN: New Fractionation Facility (Fracc 4)
- 2.2 million liters/year capacity
- First conformance lot in September 2013
- Expected approval by mid 2014

NC: North Fractionation Facility (NFF)
- 5.8 million liters/year capacity
- First conformance lot in August 2013
- Expected approval by beginning 2015
Major investments: Purification IVIG

LA: Gamunex® Purification and Filling Facility (Bldg 330)

- 10 million grams/year capacity (ready to be doubled in the future)
- Purification and filling facility: From II+III to final vial
- First conformance lot in November 2013
- Expected approval by mid 2015
BCN: New Purification Area for Prolastin®

- 180,000 grams/year capacity (future up to 540,000 grams/year)
- Conformance lots done in Q4 2012
- Expected approval by mid 2014

NC: Capacity expansion for Prolastin-C®

- 1.2 million grams/year capacity increase
- Project in conceptual design phase
- For 2017-2018 approval
Major investments: Purification Albumin

**BCN:** Third Purification line (Bldg P1)
- + 22 million grams/year capacity
- Recently approved

**NC:** Albumin process change to the method Grifols (Bldg 300)
- 62 million grams/year capacity (expandable to 124 grams/Year)
- First conformance lot in June 2013
- Expected approval by 3Q 2014

**LA:** Albumin capacity expansion (Bldg 314-315)
- + 44 million grams/year capacity (expandable to 88 million grams/year)
- Purification and Filling Facility, including Sterile Filling in Bags
- Mechanical completion by may 2014
- Expected approval by end 2015
Final goal is to have all sites with the same Grifols method process

- This process is very efficient and obtains Albumin with low aluminum content (mandatory in Europe)

- The aim of all this Albumin investments is to be able to transform all our Fr V in final product for therapeutic use

- These investments are aligned with the Grifols Strategy to recover the prestige of the Albumin in the markets and be prepared for the R&D developments in the Albumin field
Major investments: Others

NC: Filling capacity expansion (SFF Bldg)
- 3 new filling Lines with Grifols Technology
- Driven by capacity and reliability improvements
- Mechanical completion by June 2014
- Expected approval by end 2015

NC: New plasma logistic center (Clayton site)
- 3.6 million liters (5200 pallet) storage capacity at -30ºC.
- Highly automated building and plasma handling for pooling
- Break ground this week and expected approval by mid 2015
- Main Grifols plasma logistic center distributing to the other centers in City of Industry (LA, 1.5 million liters cap.) and Parets (BCN, 1 million liters cap.)
Grifols Bioscience manufacturing technology pioneering approaches

Thanks to the daily contact of our Grifols Engineering company (Grifols Engineering, S.A.) with our operations and their strong knowledge of our processes we have developed pioneering solutions for our core manufacturing processes

Examples of this are:

- Plasma bottle and more recently plasma bags emptying technology (Patented)
- Purification equipment design and manufactured in-house according to our real needs
- Grifols Sterile Filling Technology and the laser marking applied to our final containers (Patented)

And more recently still under development:

- Radio Frequency Identification (RFID) for the plasma bottles (Patented)
- Plasma bottle sampling machine (Patented)
- Sterile filling in bags technology
Conclusions

- Grifols has today three state-of-the-art manufacturing sites offering a reliable and consistent supply to the market.

- Facility and paste cross approvals are progressing and on track. New investments for key products and infrastructure are being made.

- Successful innovation through Grifols Engineering, S.A. are further improving quality and operational efficiencies.

Grifols continues to be a leader and pioneer in the industry.
Financials
Key Achievements
2012 - 2013 YTD Key Achievements - I

2012 First Financial year as an integrated entity

- Robust Revenue growth +7.6% \(^{(1)}\) cc
- +500 bps EBITDA \(^{(2)}\) margin expansion
- Net Profit growth x5 vs. 2011
- +€ 600 million unlevered free cash flow generation

1Q 2013 Margin expansion continues

- Record quarterly sales
- +150 bps EBITDA margin expansion y-o-y
- +320 bps Net Profit margin y-o-y
- +€88 million unlevered free cash flow in 1Q13

Significant operating improvements achieved

- Good progress on production flexibilization:
  - New FDA cross licenses
- Expansion capacity on track (CAPEX)
- Safety is paramount: + in house testing capacity:
  - New lab in San Marcos

\(^{(1)}\) Pro-forma growth; \(^{(2)}\) Adjusted for Talecris integration costs
### Rating agencies support Grifols’ deleveraging path
- Corporate credit ratings up 1 notch:  
  - S&P: BB, Moody’s: Ba3 (*)
- Successful term loan restructuring in 2012

### Ongoing Acquisition growth to strengthen R&D
- Largest and diverse R&D portfolio in company history
- 51% acquisition of Araclon Biotech  
  - Alzheimer R&D: Early Diagnostic & Vaccine
- 40% acquisition of VCN Bioscience  
  - New Therapeutic approach for tumors
- 60% acquisition of Progenika Biopharma  
  - New Genetic testings for personalized medicine
- 35% stake in Aradigm along with commercial rights  
  - Inhalation for the treatment of severe respiratory disease

### Consent Decree vacated
- Los Angeles consent decree officially vacated by the FDA and DOJ after more than a decade since the acquisition of Alpha Therapeutic’s assets

(*) Grifols’ Senior Secured Debt rating is one notch higher: Moody’s Ba2, S&P BB+
Q1 2013 Results
# Q1 2013 – Q1 2012 Sales by Division

<table>
<thead>
<tr>
<th>Division</th>
<th>Q1 2013 (€ Million)</th>
<th>% Sales</th>
<th>Q1 2012 (€ Million)</th>
<th>% Sales</th>
<th>% Variance c.c.</th>
<th>% Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioscience</td>
<td>604.8</td>
<td>88.5%</td>
<td>587.2</td>
<td>88.1%</td>
<td>3.0%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Hospital</td>
<td>27.1</td>
<td>4.0%</td>
<td>27.0</td>
<td>4.0%</td>
<td>0.4%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Diagnostic</td>
<td>32.6</td>
<td>4.8%</td>
<td>34.8</td>
<td>5.2%</td>
<td>-6.3%</td>
<td>-5.7%</td>
</tr>
<tr>
<td>Raw Materials and Others</td>
<td>19.2</td>
<td>2.7%</td>
<td>17.7</td>
<td>2.7%</td>
<td>8.6%</td>
<td>10.0%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>683.7</td>
<td>100.0%</td>
<td>666.7</td>
<td>100.0%</td>
<td>2.6%</td>
<td><strong>3.5%</strong></td>
</tr>
<tr>
<td>Region</td>
<td>Q1 2013</td>
<td>% Sales</td>
<td>Q1 2012</td>
<td>% Sales</td>
<td>% Variance</td>
<td>% Variance c.c.</td>
</tr>
<tr>
<td>-----------------</td>
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<td>---------</td>
<td>---------</td>
<td>------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>EU</td>
<td>149.3</td>
<td>21.8%</td>
<td>151.4</td>
<td>22.7%</td>
<td>-1.4%</td>
<td>-1.5%</td>
</tr>
<tr>
<td>US + CANADA</td>
<td>409.9</td>
<td>60.0%</td>
<td>416.8</td>
<td>62.5%</td>
<td>-1.6%</td>
<td>-0.5%</td>
</tr>
<tr>
<td>ROW</td>
<td>114.9</td>
<td>16.8%</td>
<td>90.8</td>
<td>13.6%</td>
<td>26.4%</td>
<td>28.4%</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>674.1</td>
<td>98.6%</td>
<td>659.0</td>
<td>98.8%</td>
<td>2.3%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Raw Materials</td>
<td>9.6</td>
<td>1.4%</td>
<td>7.7</td>
<td>1.2%</td>
<td>25.5%</td>
<td>27.4%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>683.7</td>
<td>100.0%</td>
<td>666.7</td>
<td>100.0%</td>
<td>2.6%</td>
<td><strong>3.5%</strong></td>
</tr>
</tbody>
</table>
Q1 2013 – Q1 2012 Performance

**Net Revenues**

<table>
<thead>
<tr>
<th></th>
<th>Q1 2012</th>
<th>Q1 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>€ Million</td>
<td>666.7</td>
<td>683.7</td>
</tr>
</tbody>
</table>

+2.5% +3.5% c.c.

**Adjusted EBITDA**

<table>
<thead>
<tr>
<th></th>
<th>Q1 2012</th>
<th>Q1 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>% NR</td>
<td>32.0%</td>
<td>33.7%</td>
</tr>
</tbody>
</table>

+8.0%

**Financial Result**

<table>
<thead>
<tr>
<th></th>
<th>Q1 2012</th>
<th>Q1 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>% NR</td>
<td>-68.3</td>
<td>-61.8</td>
</tr>
</tbody>
</table>

-9.5%

**Net Profit**

<table>
<thead>
<tr>
<th></th>
<th>Q1 2012</th>
<th>Q1 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>% NR</td>
<td>10.1%</td>
<td>13.3%</td>
</tr>
</tbody>
</table>

+34.8%
• Manufacturing and plasma cost efficiencies
• Yield improvements
• Higher plasma cost allocation and income per liter increase
• SG&A leverage

Adjusted EBITDA continuous improvement

(1) Adjusted for Talecris integration costs
## Financial Result Analysis

€ Million

<table>
<thead>
<tr>
<th></th>
<th>Q1 2012</th>
<th>Q1 2013</th>
<th>% Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interests</td>
<td>50.2</td>
<td>39.3</td>
<td>-21.5%</td>
</tr>
<tr>
<td>Financing deferred cost</td>
<td>25.3</td>
<td>19.7</td>
<td>-22.1%</td>
</tr>
<tr>
<td>Other financial expense / income</td>
<td>0.2</td>
<td>-2.1</td>
<td>NM</td>
</tr>
<tr>
<td>Derivatives valuation</td>
<td>-6.0</td>
<td>0.1</td>
<td>NM</td>
</tr>
<tr>
<td>FX variance</td>
<td>-1.4</td>
<td>4.8</td>
<td>NM</td>
</tr>
<tr>
<td><strong>Total Financial Result</strong></td>
<td>68.3</td>
<td>61.8</td>
<td>-9.5%</td>
</tr>
</tbody>
</table>
### Q1 2013 Cash Flow – Sources & Uses

**€ Million**

<table>
<thead>
<tr>
<th>SOURCES</th>
<th>USES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>- Net Operating Cash Flow</td>
<td>- CAPEX + Intangible (34.4)</td>
</tr>
<tr>
<td></td>
<td>- Interest (53.9)</td>
</tr>
<tr>
<td>- Sale of assets (*)</td>
<td>- Gross Debt Decrease (30.4)</td>
</tr>
<tr>
<td></td>
<td>- Progenika (*) (29.8)</td>
</tr>
<tr>
<td></td>
<td>- Treasury Stock (*) (83.3)</td>
</tr>
<tr>
<td></td>
<td>- FX and Others (11.2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Total (220.6)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>- Cash beginning balance</td>
<td></td>
</tr>
<tr>
<td>- Cash ending balance</td>
<td></td>
</tr>
<tr>
<td>- Cash Decrease</td>
<td></td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>(220.6)</td>
</tr>
</tbody>
</table>

(*) Extraordinary Items
Net Bank Debt reduction

USD Million

<table>
<thead>
<tr>
<th>Date</th>
<th>Net Bank Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 2011</td>
<td>4,284 USD</td>
</tr>
<tr>
<td>Sep 2011</td>
<td>4,135 USD</td>
</tr>
<tr>
<td>Dec. 2011</td>
<td>3,887 USD</td>
</tr>
<tr>
<td>March 2012</td>
<td>3,904 USD</td>
</tr>
<tr>
<td>June 2012</td>
<td>3,663 USD</td>
</tr>
<tr>
<td>Sept. 2012</td>
<td>3,532 USD</td>
</tr>
<tr>
<td>Dec. 2012</td>
<td>3,396 USD</td>
</tr>
<tr>
<td>March 2013</td>
<td>3,451 USD</td>
</tr>
</tbody>
</table>
Continuous deleverage ahead of commitments

(*) Minimum level at 3.0 in 2015
## Financing acquisition package – Capital Structure Optimization

**As of March 31st, 2013**

### Source

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount  ($) Million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revolving</td>
<td>$203</td>
</tr>
<tr>
<td>TLA</td>
<td>$772</td>
</tr>
<tr>
<td>TLB</td>
<td>$1,925</td>
</tr>
<tr>
<td>High Yield Bond</td>
<td>$1,100</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$3,797</strong></td>
</tr>
</tbody>
</table>

### Repricing & Restructuring Opportunities

- Benefiting from Grifols strong Operating performance and continuous deleverage
- Expected strong US market conditions will support repricing
- Grifols Credit rating already upgraded
- Term loans repricing along with HYB refinancing in early 2014
- Expected improvements in interest cost as well as in tenor extension
Shareholders Return
Dividends distribution – Payment years

- **2009**
  - Interim 2009 + Final 2008: €0.38
  - Pay-out 40%

- **2010**
  - Final 2009: €0.13

- **2011**
  - Script Dividend 1B: 10 A or B
  - Script Dividend 1B: 20 A or B

- **2012**
  - €DPS

- **2013 (**)**
  - Back to cash dividends
  - Interim 2013: €0.20
  - Pay-out 40%

(*) In addition to the 2013 interim dividend, the 2012 preferred dividend (B Shares) of €0.01 has been paid.

---

Investors’ & Analysts’ Meeting, Austin, 2013
Grifols vs. IBEX 35: Stock price change June 3rd 2011 to May 17th 2013

+100% Stock appreciation in 23 months since Talecris’ transaction close

Source: Infobolsa

Grifols Class A May 17th, 2013 (GRF €28.99)
Grifols Class B May 17th, 2013 (GRF €21.00)
Conclusions

- Q1 robust performance resulted from operational improvement and lower interest and tax expense
- EBITDA margin continuous improvement from Gross Margin expansion, R&D additional investments and SG&A dilution
- Lower interest cost resulting from refinancing terms and lower leverage
- Solid operating Cash Flow generation
- After two years of script dividends, back to cash dividends … committed to consistently deliver higher return to shareholders
Concluding remarks
THE SAME COMMITMENT AND INNOVATION AS THE FIRST DAY

1945s, Dr. J.A. Grifols i Rodig, Founder.

GRIFOLS pioneering spirit
Investors’ & Analysts’ Meeting in Austin

Thursday 30th and Friday 31st
May 2013