Proteomika alorreko erreminta anitzen erabilera

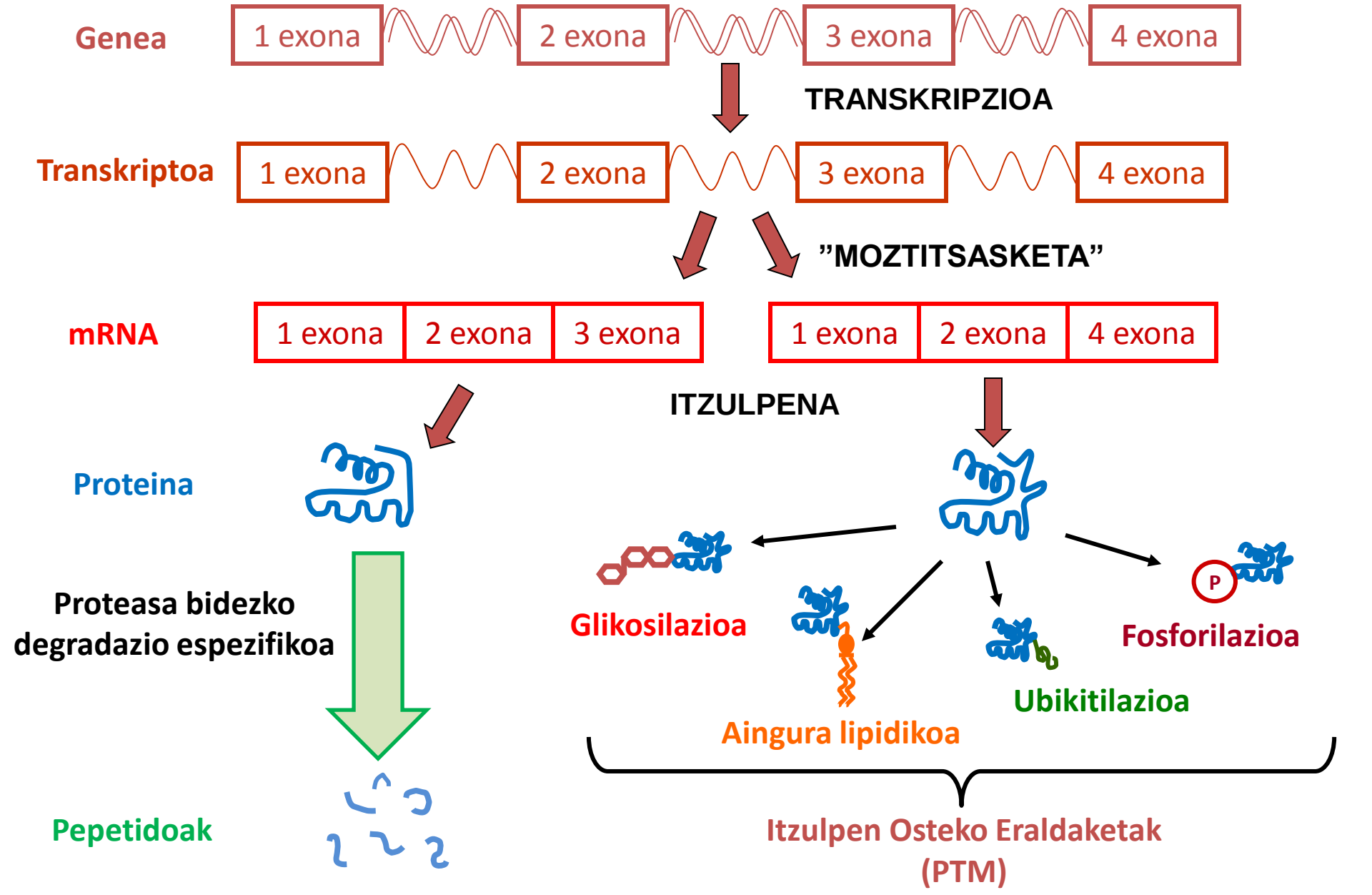
Felix Elortza

Proteomics Platform
CIC bioGUNE
Bizkaia Science and Technology Park,
Building 800
48160 Derio
Bizkaia

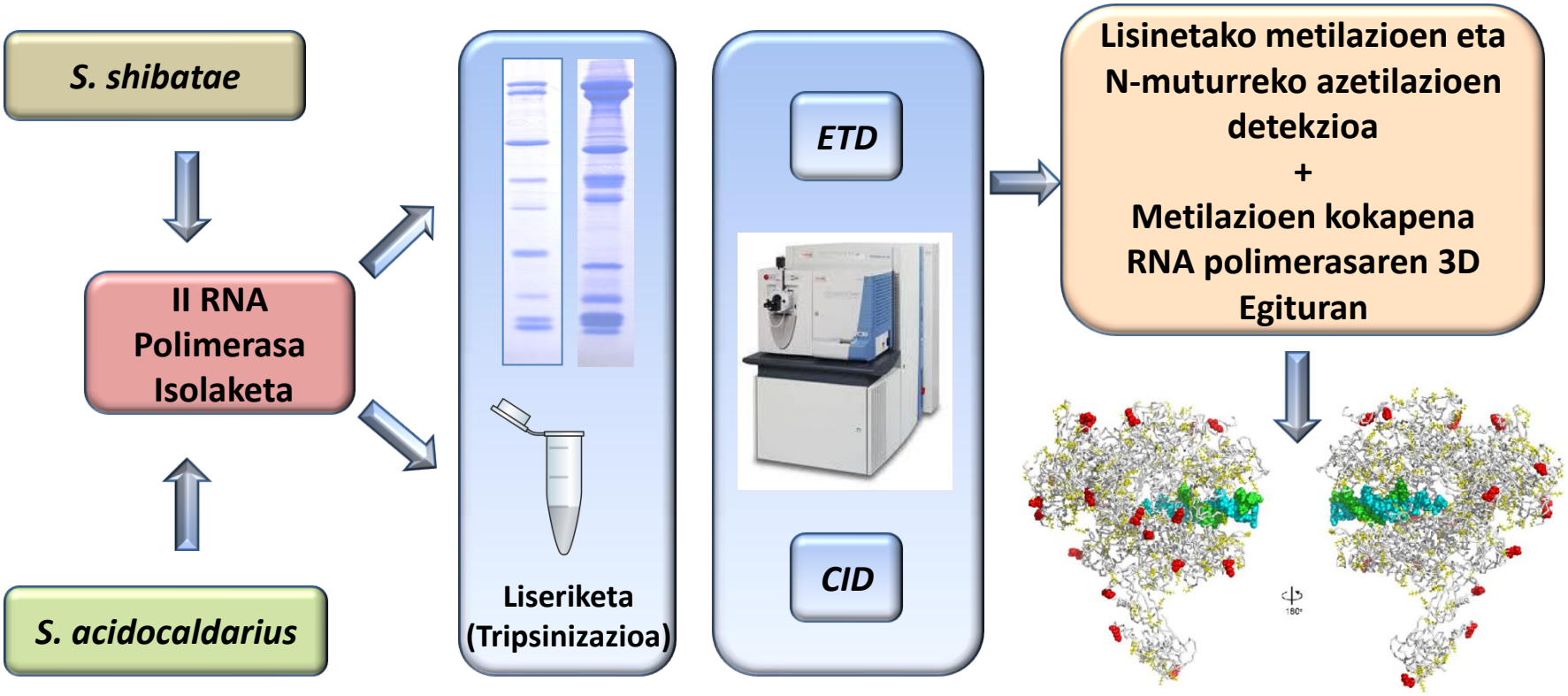
felortza@cicbiogune.es

CIC bioGUNE
Biozientzietako Ikerkuntza Kooperatiboko Zentroa
Centro de Investigación Cooperativa en Biociencias

Proteomaren konplexutasuna

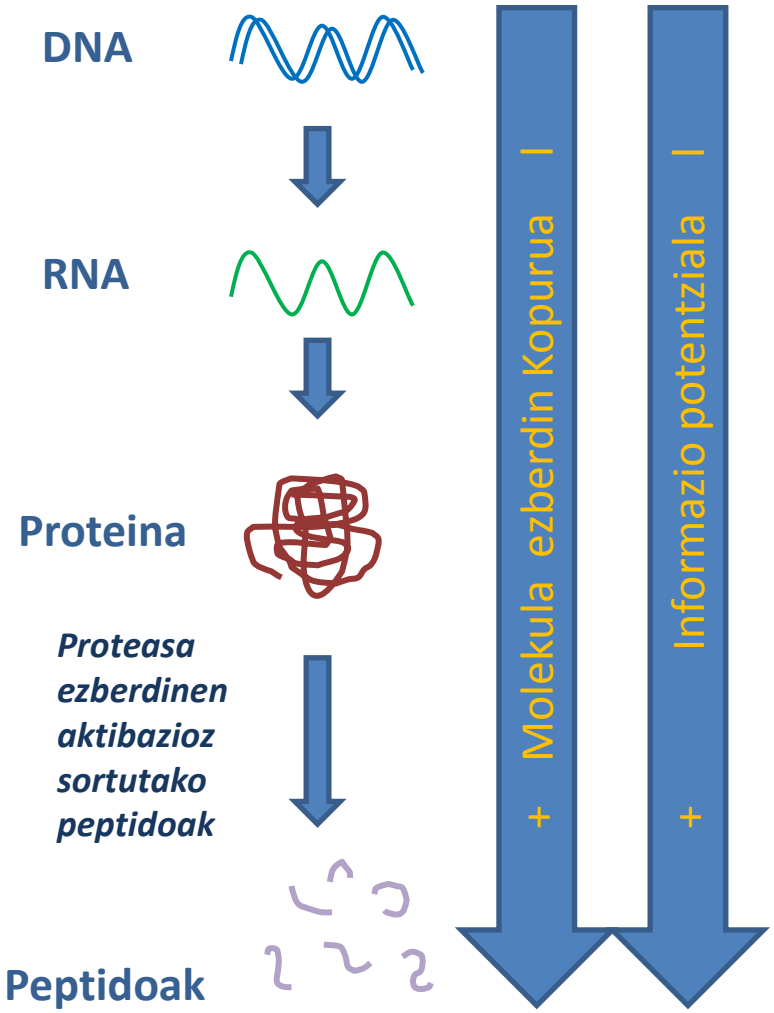


Itzulpen osteko eraldaketen azterketa



Azkargorta *et al*. Journal of Proteome Research, 2014, Mar 27.

Peptidomika



-Peptidoek oso tamaina ezberdinak aurkeztuko dituzte
"Middle-down MS"

-Peptido horiek ez dira triptikoak
(beraz ez dute K/R karboxilo muturrean)

-Itzulpen osteko eraldaketa ezberdinak izan ditzakete:
Azetilazioa, Metilazioa, Fosforilazioa, e.a, e.a

Masa espektrometria bidezko ioi-apurketa eta metodologia ezberdinak erabiliz, *peptido naturalen identifikazioa lortu dugu*

Bauça *et al*. Clinical Chemistry. 2013

Peptidoen profil bidezko diagnosi/prognosia

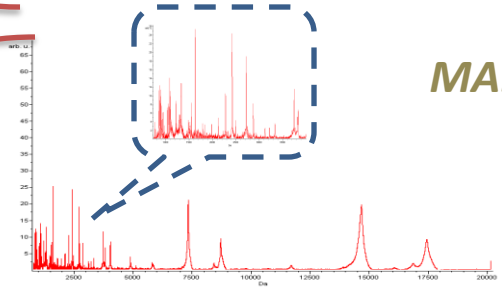
Lagina
Osasuntsua *vs* Gaixoa

Malkoa

“Fase solidoko erauzketa”
(garbiketa eta kontzentrazio urratsa)

“bihi magnetikoen” bidezko
Fase Solidoko Erauzketa (SPE)

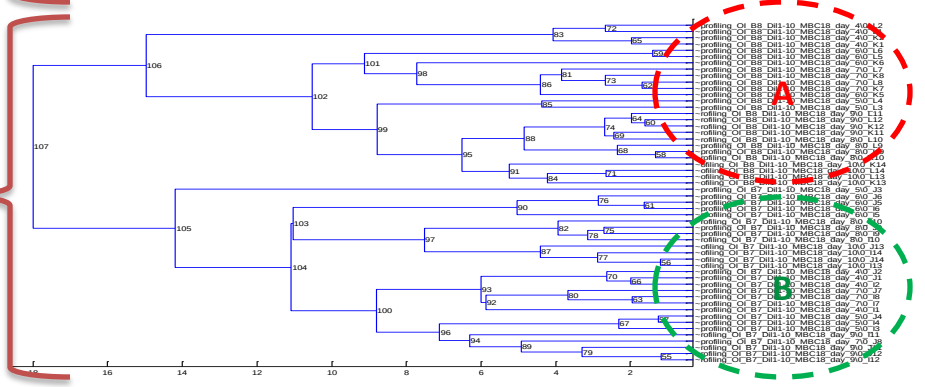
MALDI TOF analisia



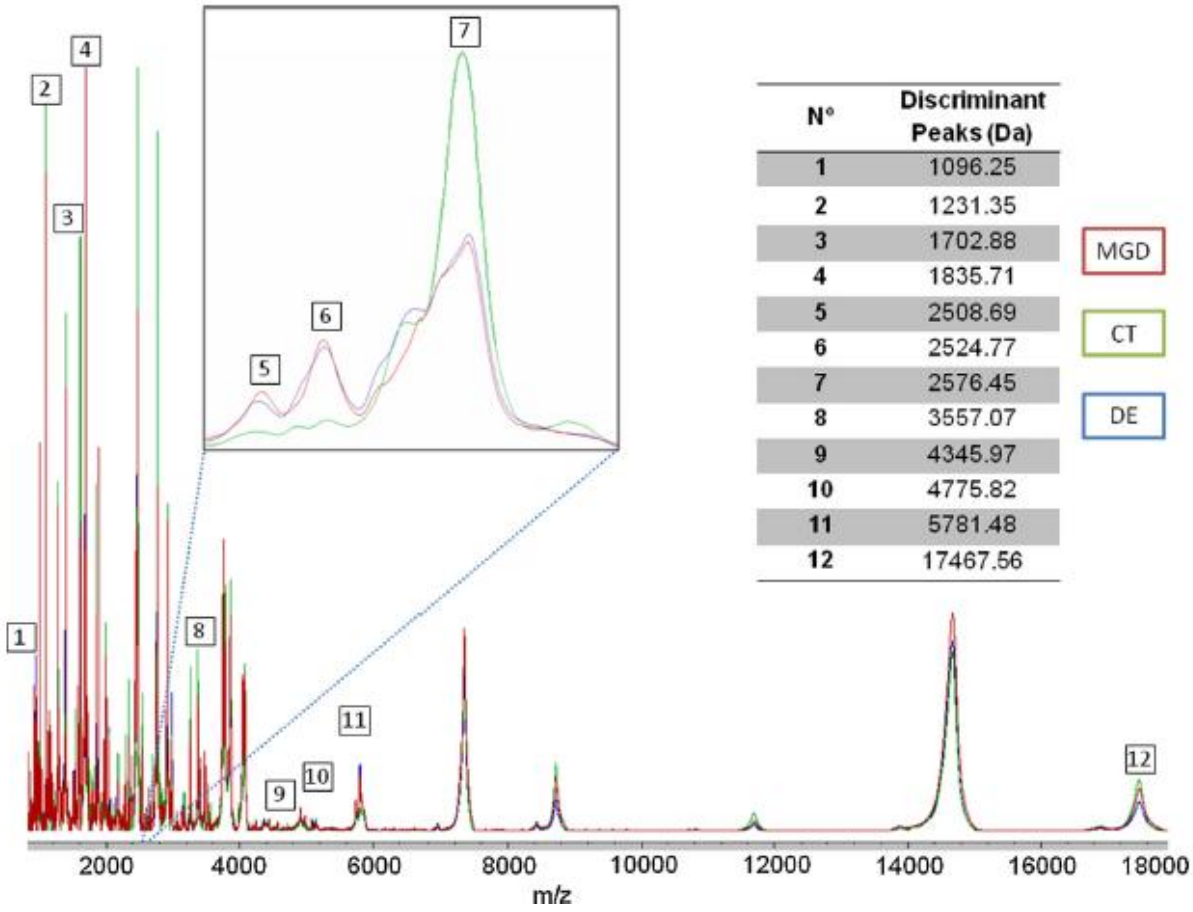
MALDI TOF espektroa

Espektru birtuala

Datu prozesamendua
eta estatistika



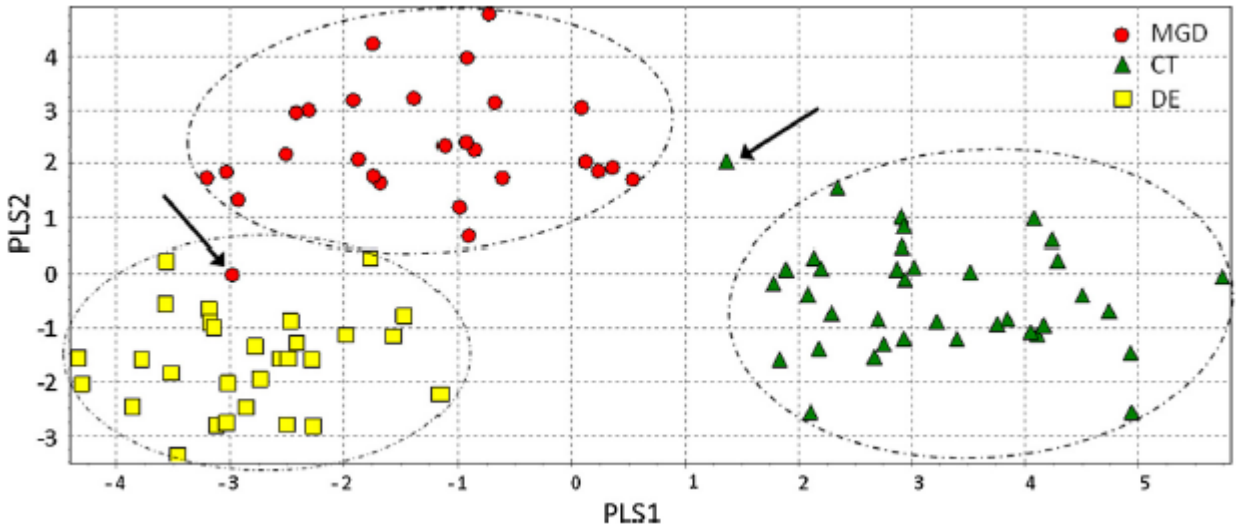
SPE-MALDI Profilen azterketa: meibomioko guruinetako disfuntzioa eta begi-lehor sindromeen analisia



N°	Discriminant Peaks (Da)
1	1096.25
2	1231.35
3	1702.88
4	1835.71
5	2508.69
6	2524.77
7	2576.45
8	3557.07
9	4345.97
10	4775.82
11	5781.48
12	17467.56

Gonzalez *et al*. Eupa Open Proteomics. 2014
http://dx.doi.org/10.1016/j.euprot.2014.02.016

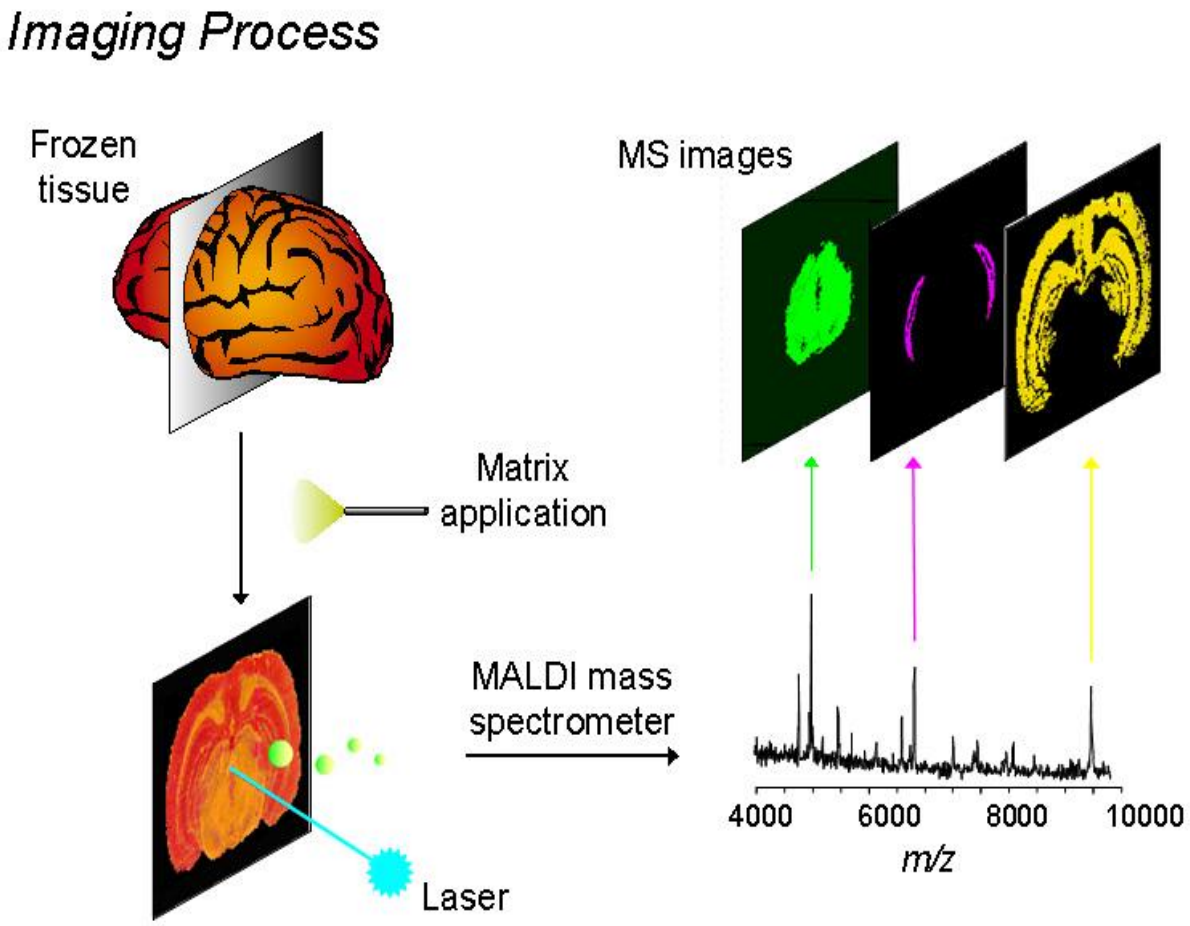
SPE-MALDI Profilen azterketa: meibomioko guruinetako disfuntzioaren eta begi-lehor sindromearen analisia



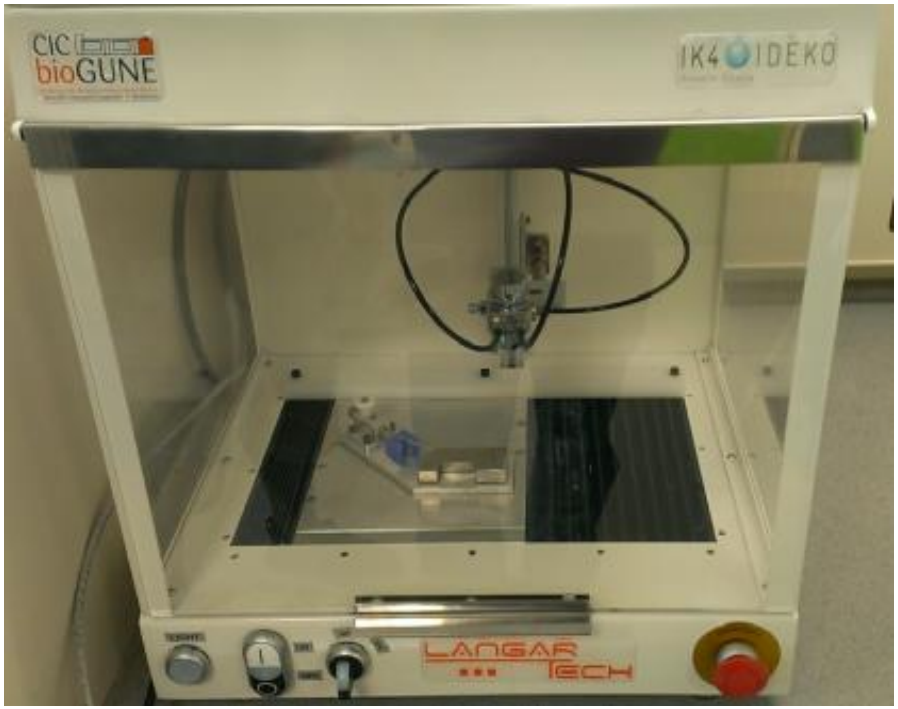
Aldagai diskriminatzaileenak erabiliz eginiko NIPALS* bidezko analisia
*NIPALS (*Nonlinear iterative partial least squares*)

Gonzalez *et al*. Eupa Open Proteomics. 2014
http://dx.doi.org/10.1016/j.euprot.2014.02.016

Masa espektrometria bidezko ehunen irudi molekularra (MALDI IMS)



Ehunen irudi molekularra lortzeko “spray”-a sortzeko gailua



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IK4 IDEKO
Research Alliance

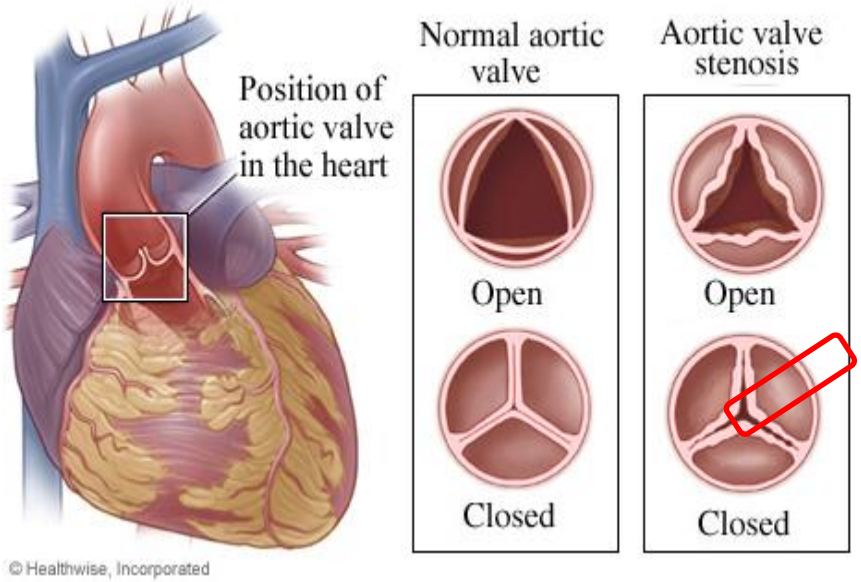
MONDRAGON UNIBERTSITATEA

LANGARTECH

IDEKO-IK4/MU-rekin elkarlanean eraikitako “spray”-erra

Amaia Bueno-ren Ikasketa bukaerako lana 2013 (MU)
Tutorea: Harkaitz Urreta (IDEKO)
Aholkulariak: Ibon Iloro & Felix Elortza (CIC bioGUNE)

Masa espektrometria bidezko ehunen irudi molekularra biomedikuntzan



Ehun ebaketa

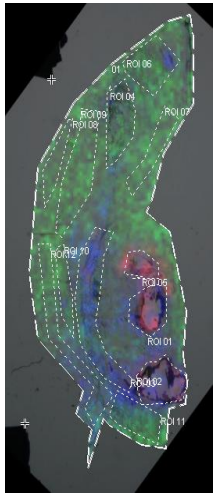
Normal aortic valve. A normal aortic valve opens fully to let blood flow into the aorta. The aortic valve has three flaps that work like a one-way gate. When the heart pumps, the aortic valve opens to allow oxygen-rich blood to flow from the left ventricle into the aorta. When the heart rests between beats, the aortic valve closes to keep blood from flowing backward into the heart.

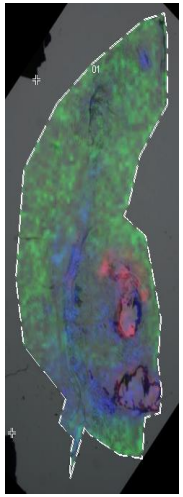
Aortic valve stenosis. With aortic valve stenosis, the valve cannot open as wide as normal. Because the valve does not open as wide, the heart must work harder to pump blood through the valve.

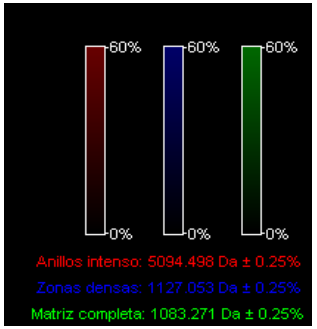
MALDI IMS: Aortako balbulako krioebaketekin egindako saiakerak

(10 µm-tako krioebaketak)

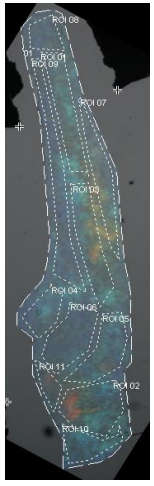
Kalte oso garatua

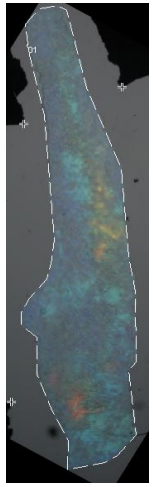


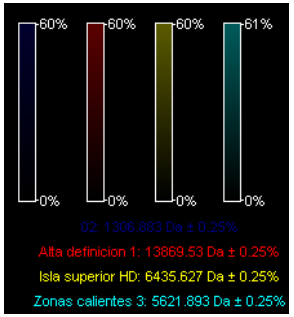




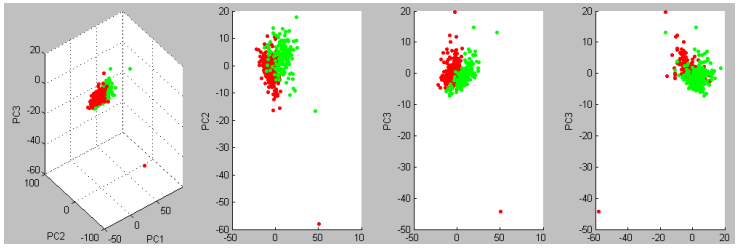
Erdi mailako kaltea



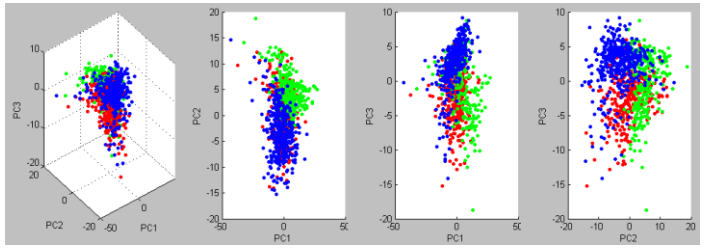




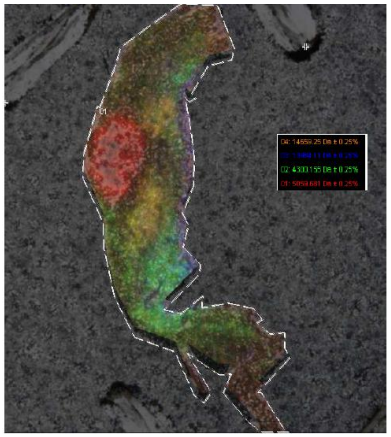
ROI 03 vs ROI 12

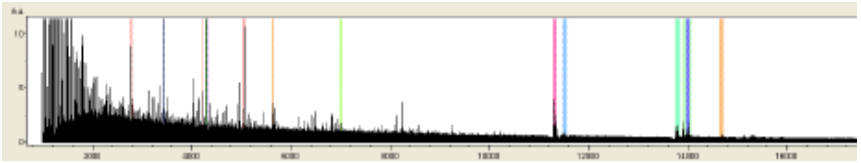


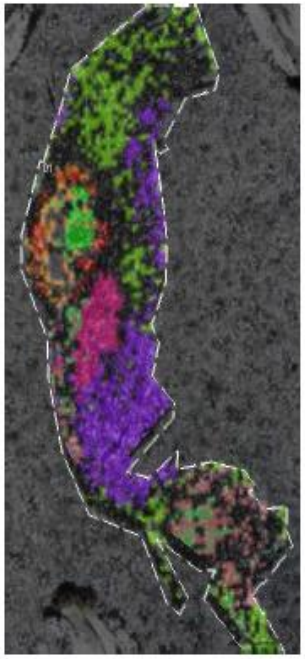
ROI 01 vs ROI 07 vs ROI 09

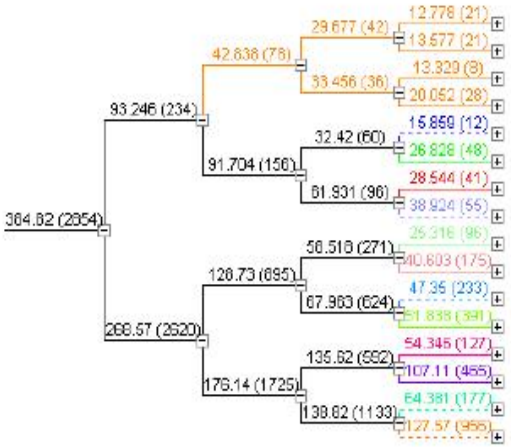


MALDI IMS:
immuno-histokimikarekiko osagarria









Immuno-histokimika:
Dagoeneko ezaguna den proteina bat ikusteko/kokatzeko baliogarria.
Analisi ituratua: aurretiazko informazioa behar da.

MALDI IMS:
Analisi ez ituratua: aurretiazko informaziorik gabe jasotako datuak.

Esker onak

Mikel Azkargorta, Ibon Iloro, Iraide Escobes

Nicola Abrescia, Magdalena Wojtas

Tatiana Suarez, Javi Soria, Nerea Gonzalez, Arantxa Acera

Harkaitz Urreta, Ibon Serrano, Amaia Bueno

M.E. Barderas, Laura Mouriño (Toledo)