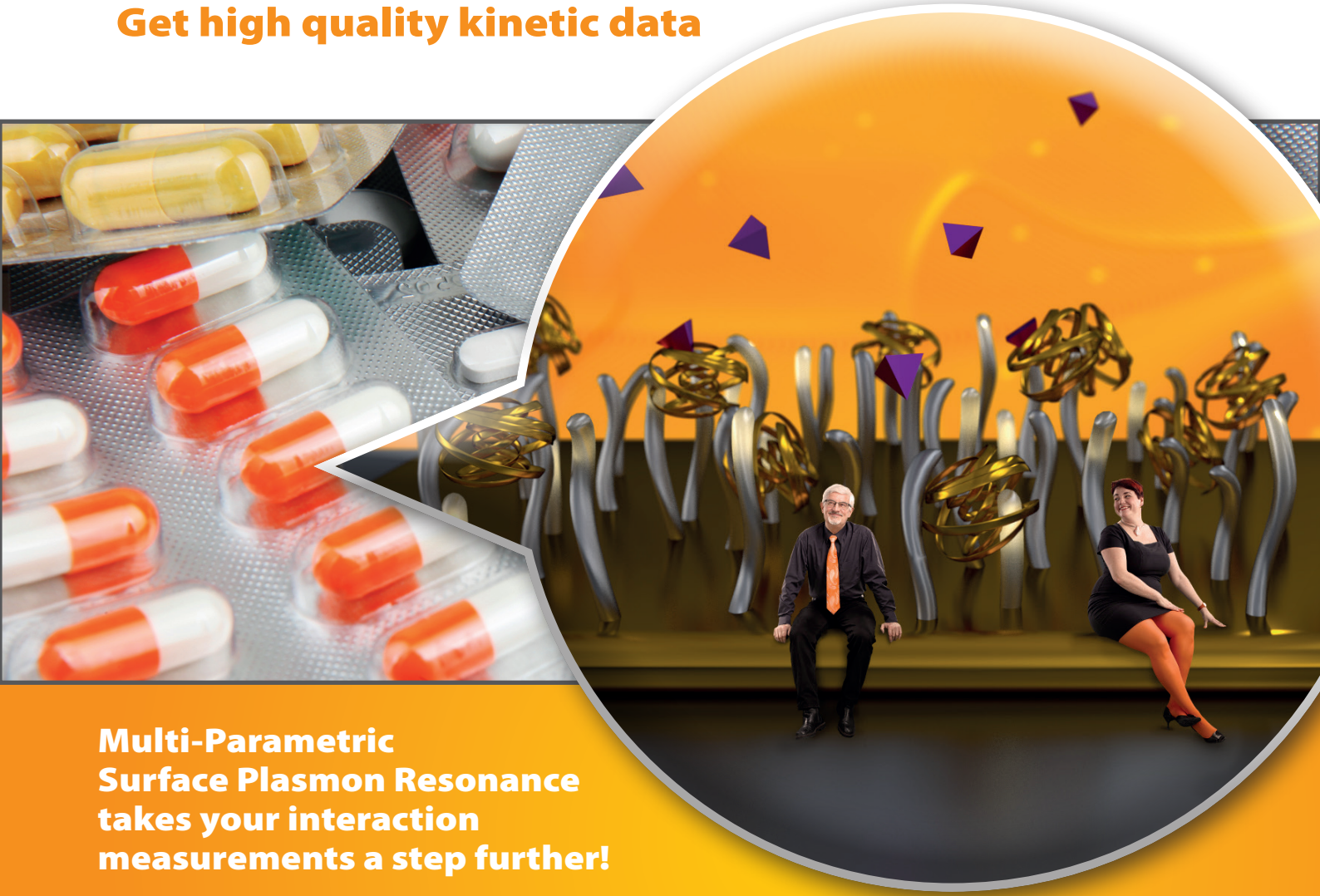
Excellence in Surface Plasmon Resonance

BioNavis

Small molecules

Make drugs that work!

Get high quality kinetic data



Multi-Parametric Surface Plasmon Resonance takes your interaction measurements a step further!

Key questions that MP-SPR can answer:

- What is small molecule weight drug X affinity to protein Z?
- How much is the real binding without bulk effect?
- How fast is molecule X association and dissociation kinetics to molecule Y?
- Which drug molecule is best to bind receptor Z?
- What is the release rate of drug X from material Y?

PureKinetics™

www.bionavis.com/pharma

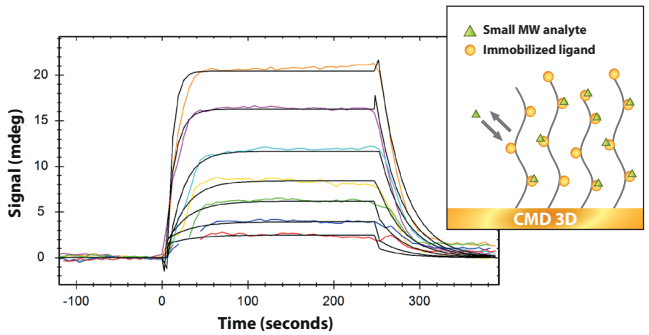
Why choose MP-SPR for molecular interaction studies?

Small molecules measured directly

MP-SPR measures small molecules directly and in meaningful concentrations, which is not the case with all the SPR instruments on the market. MP-SPR is suitable for measurements on small molecular weight drug, nucleotide, peptide, antibody, membrane receptor, virus, nanoparticle, microvesicle or cell.

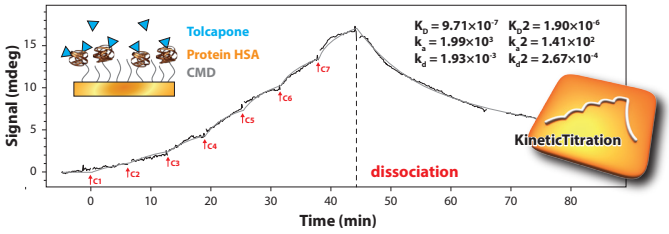
Get affinity and kinetics of the interaction

Get affinity as well as kinetic constants of the interaction. TraceDrawer™ for MP-SPR Navi™ is advantageous data-analyzing tool for interaction data utilizing multiple fitting models.



Faster interaction measurement using KineticTitration

KineticTitration significantly reduces time required to run an assay with different concentrations. It is also useful for interactions that are difficult to regenerate or when regeneration damages the ligand on the surface. In the measurement, analyte samples are flown over the surface in a series from low to high concentration, without dissociation and regeneration steps between the samples with different concentrations as required in other methods. Unique to 420A ILVES.



Low total cost of ownership

Compare instruments prices! Do you want a full care package with assay development to start your measurements quickly, annual maintenance check (AMC), or do you prefer to change the flow-cell and tubing by yourself - it is your choice!

Easy shift from targeting to internalization studies

MP-SPR is the only platform that allows you to start with drug-target interactions and follow with drug-lipid membrane, and even all the way to drug internalization by living cells. And of course, all of these can be also measured with nanoparticles, may they be made of polymer, metal, silica, DNA polyplexes or exosomes. For more information see separate leaflets.

High quality data with PureKinetics™

MP-SPR provides high quality data from direct small molecule measurements. The key factor is the unique PureKinetics™ feature, which allows compensation of bulk artifacts (also called "bulk effect" or "DMSO effect"). Even 5% changes in DMSO can be tolerated with PureKinetics™ without multiple calibration injections. MP-SPR is the only technology capable of utilizing this feature.

Recommended MP-SPR Navi™ instrument for measurements of molecular interactions:

200 OTSO **400 KONTIO** **210A VASA** **220A NAALI** **420A ILVES**

Further reading:

AN #155 Faster interaction measurements using MP-SPR KineticTitration
AN #147 Analyzing dissociation kinetics of IgG from protein A using MP-SPR and PureKinetics™
AN#144 Small molecule weight drug binding to protein
AN#138 Antibody and antigen interaction
AN#137 Drug - living cell interaction
AN#117 Single stranded DNA binding to complimentary DNA

Selected publications:

Small drug prevents amyloid beta aggregation - Alzheimer´s study (Hilt et al., J.Phys.Chem.C, 2017)

Small drugs binding affinity and kinetics of chlorogenic acid (Shiraishi et al., Chem. and Pharm. Bulletin, 2017)

Interaction of indomethacin nanocrystals and PEO/PPO copolymer stabilizers (Liu et al., Pharmaceutical Research, 2015)

Small drugs interaction with cell monolayer (Viitala et al., PLoS One, 2013)

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