

## High Sensitivity, 1 ul Lipid Content - Vials Kit

TRANSIL High Sensitivity Binding Kit, 1 ul Lipid Content - Vials

CATALOG #  
**AAA60732**

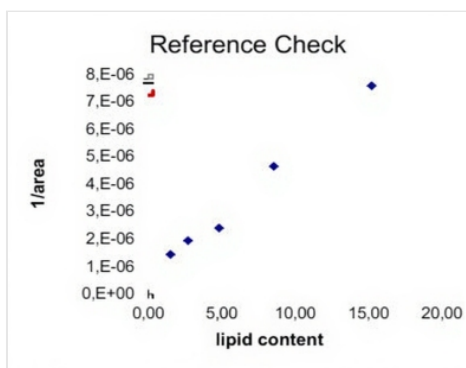
### PRODUCT SYNONYMS

High Sensitivity; 1 ul Lipid Content - Vials; TRANSIL High Sensitivity Binding Kit; 1 ul Lipid Content - Vials kit

### PRODUCT SPECIFICATIONS

|                         |                       |
|-------------------------|-----------------------|
| Assay Type              | Competitive           |
| Preparation and Storage | Store at -20 degree C |

### IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

|                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| Related Product Information for High Sensitivity, 1 ul Lipid Content - Vials kit | <p>Background: The plasma protein binding of drugs continues to be important for property pharmacokinetic evaluations and in routine clinical monitoring of drugs. This is because for many drugs, the therapeutic and toxic response correlates better with the concentration of diffusible, unbound drug than with the total drug concentration. Several methods exist for assessing the unbound fraction of drug in plasma. Standard methods include dialysis, ultrafiltration, centrifugation and rapid dialysis with immobilized plasma proteins (TRANSIL HSA and AGP Binding kit). These methods differ in their limitations and are typically used as complimentary tools to assess the unbound fraction for a wide array of chemical structures. However, if the unbound fraction becomes very low and comprises only 1% of the total drug in plasma or even less, then all the mentioned methods become inaccurate mainly because of analytical problems. Plasma dilution can be used to increase the unbound fraction, however, care needs to be taken not to saturate the binding sites of the binding proteins in plasma that have only a very low abundance, such as <math>\alpha</math>1-acid glycoprotein, lipoproteins, or sex hormone binding protein. Another problem that typically arises with highly lipophilic drugs is a deteriorating recovery of drugs in the experiment due to non-specific binding. The erythrocyte partitioning assay was developed to circumvent both the analytical problem and the problem on nonspecific binding (Tucker et al. 1970, Trung et al. 1984, Urien et al 1990). This assay assesses plasma protein binding through competitive binding to cell membranes from erythrocytes. Originally the erythrocyte partitioning assay was performed with erythrocytes from the same species as the plasma proteins. It turned out the assay's accuracy is not compromised when using human erythrocytes (Schuhmacher et al., 2000) or TRANSIL beads with immobilized membranes (Schuhmacher et al., 2004). Hence, the assay can be simplified and the cumbersome steps of washing and handling of erythrocytes can be eliminated altogether.</p> <p>Principle of the Assay: The TRANSIL High Sensitivity Binding assay determines the fraction of drug bound to plasma indirectly by determining the partitioning of drug between a plasma phase and a lipid membrane phase. The principle of the assay is equivalent to the erythrocyte partitioning assay (Schuhmacher et al., 2004). The assay assesses plasma protein binding through competitive binding to synthetic cell membranes and has two key principles to obtain accurate binding estimates: (i) the membranes compete with the plasma proteins for finding the drug candidate, hence the more drug shifts away from plasma to membrane, the weaker the protein binding in comparison to the membrane affinity; (ii) the assay assess only the drug concentration in the membrane and the plasma/buffer fraction. A consequence of the latter is that there is no pure buffer phase in which the compound could precipitate and that the assay will not measure the unbound concentration of the drug directly. Assay principle (i) allows the accurate determination of the unbound fraction by measurement of the membrane affinity in different plasma dilutions.</p> |
| Product Categories/Family for High Sensitivity, 1 ul Lipid Content - Vials kit   | Sovicell ADME Assays                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.