

Do you accept poor quality in ion channel screening?

For establishment of **Structure Activity Relationship (SAR)** and reliable anticipation of **preclinical and clinical studies**, High Quality Criteria in Ion Channel Screening are essential.

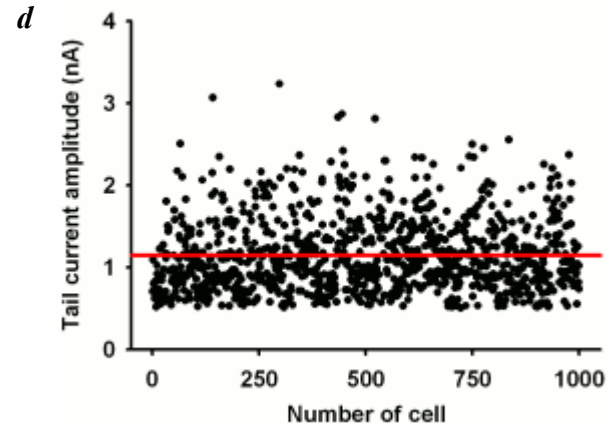
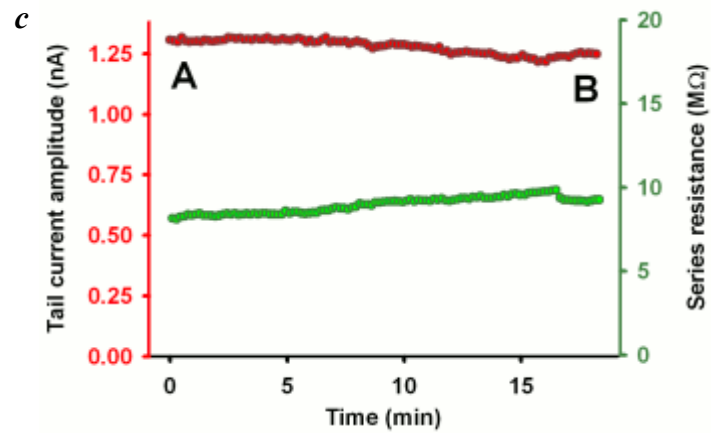
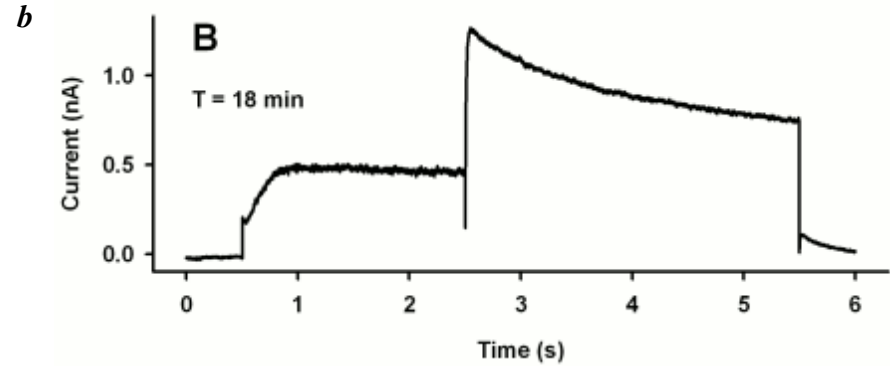
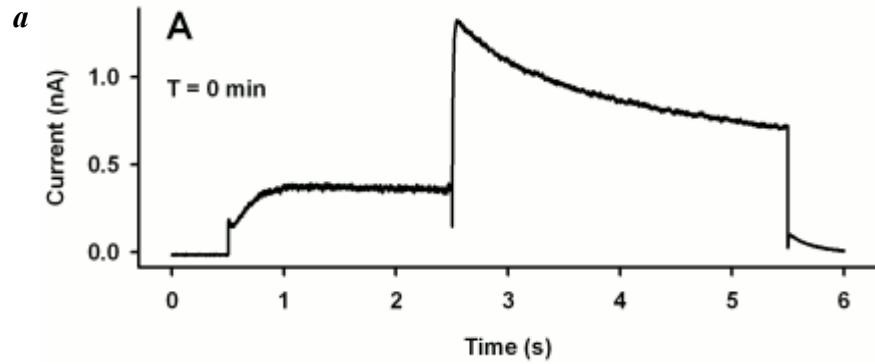
bSys Quality Standards

We defined 9 criteria in ion channel screening that remain equally valid for large and small compound batches:

1. **Current Amplitude** large enough (>500 pA for hERG, mean of 1000 cells: 1.15 nA) (see fig. [1a,d](#))
2. **Rundown** <10% over entire measurement, no "rundown correction" needed (see fig. [1a-c](#))
3. **Seal resistance** >1 GΩ, no leak subtraction needed
4. **Series resistance** stable and controlled (see fig. [1c](#))
5. **True steady state values** evaluated after complete wash in (see fig. [2a,b](#))
6. **Reference** substances: dose response curves match literature data (see fig. [2c](#))
7. **Full glass equipment** avoids underestimated IC₅₀ values of **sticky compounds**
8. **Small error bars** due to low dispersion of values (see fig. [2c](#))
9. **Reproducibility also in non-GLP screens and studies**

How it should look like in HERG Screening

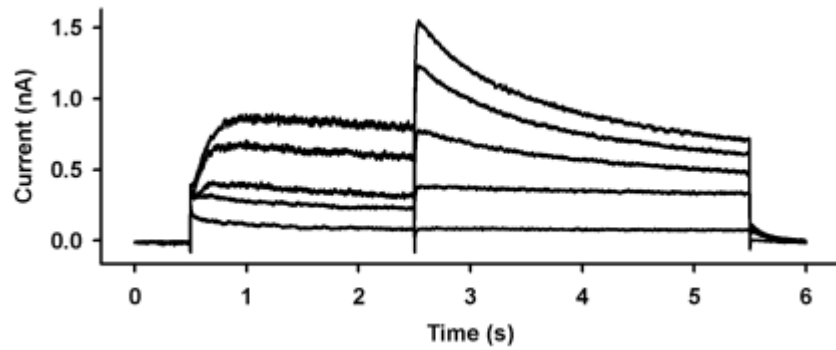
Fig. 1



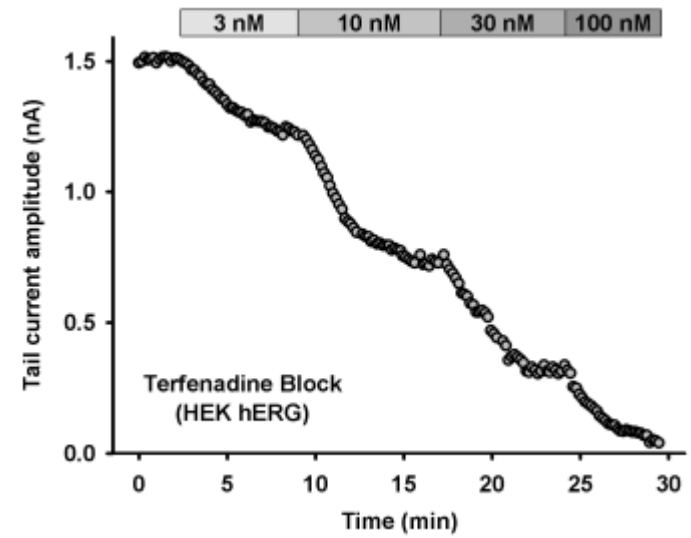
⇒ High current amplitudes throughout experiment time course - rundown <10%, stable series resistance.
Mean current amplitude of the last 1000 cells (1.15 nA).

Fig. 2

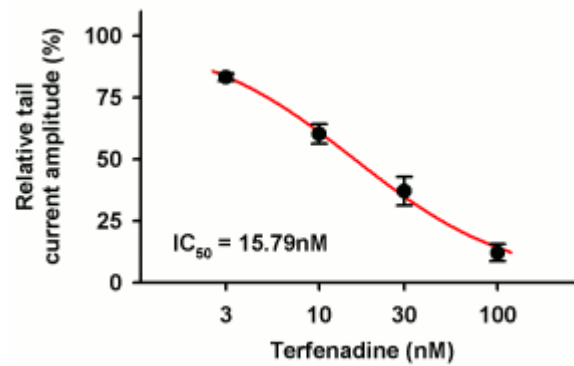
a



b



c



Example of test item application (Terfenadine)

⇒ Interested in high quality? Please contact us: assay@bsys.ch or www.bsys.ch

