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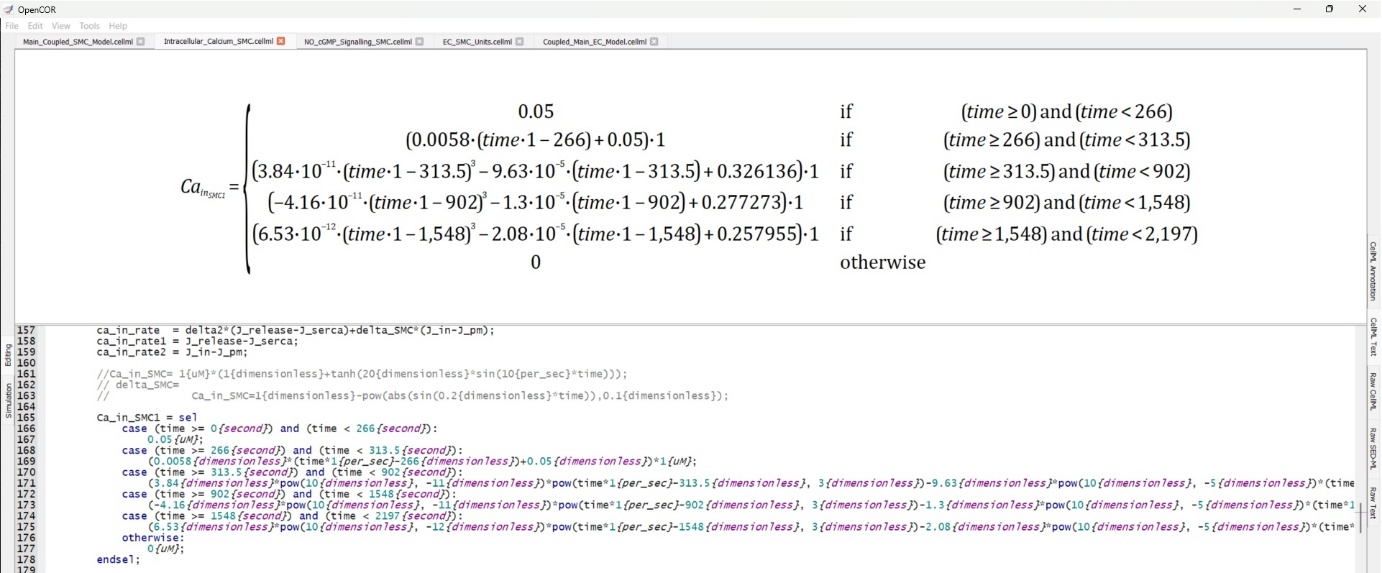
**Coupled Endothelial and Smooth Muscle Cell Model**

* The EC component (4) and SMC components (1,2,3) are coupled.
* **The involved and edited CellML Models:**

1. Main\_Coupled\_SMC\_Model.cellml
2. **Intracellular\_Calcium\_SMC.cellml**
3. NO\_cGMP\_Signalling\_SMC.cellml
4. Coupled\_Main\_EC\_Model.cellml
5. EC\_SMC\_Units.cellml

Notes.

1. In the file Intracellular Calcium\_SMC.cellml, agonist effect (level) is considered zero.
2. In the file Intracellular Calcium\_SMC.cellml, I digitised the cytosolic calcium concentration [Ca2+]i graph from Figure 4(A) in reference [6] (experiment 5) and used it to generate a step-function input (as below) that mimics the observed pattern. This step function was then used as an input in this model and the coupled model.
3. The [Ca2+]i initial value is changed from 0.116477 uM to 0.05 uM because the study [6](exp 5) noted that during the initial transients of [Ca2+], the calibration may be inaccurate due to inhomogeneities in [Ca2+] during rapid Ca2+ fluxes. So, we chose an initial value close to the [Ca2+] initial value (0.034 uM) in Figure 3 in [6].



1. Parameters values were changed from the airway setting to lung arteriole setting from Table 1 in [4].

References:

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